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PAPERS

RESPECTING THE

CULTURE AND MANUFACTURE

OF

SUGAR

IN

BRITISH INDIA.

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First Appendix to Report on East India sugar 1822

Printed by John Booser & Co. 310 Strand

EAST-INDIA SUGAR.

PAPERS

RESPECTING THE

CULTURE AND MANUFACTURE

OF

SUGAR

IN

BRITISH INDIA:

ALSO

NOTICES OF THE CULTIVATION OF SUGAR

IN

OTHER PARTS OF ASIA.

00108271

WITH MISCELLANEOUS INFORMATION RESPECTING SUGAR.

LONDON:

PRINTED BY ORDER OF THE COURT OF PROPRIETORS OF THE EAST-INDIA COMPANY,

By E. Cox and Son, Great Queen Street.

18th Dec. 1822.

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AT A

GENERAL COURT

OF THE UNITED COMPANY OF MERCHANTS OF ENGLAND TRADING TO THE EAST-INDIES,

Held at their House in Leadenhall-Street, on Friday the 26th July 1822.

General Court, 26th July 1822.

The Chairman acquainted the Court, that agreeably to the By-Law, cap. 1. sec. 4., it had been specially convened for the purpose of laying before the Proprietors a Bill now pending, entitled "A Bill to continue for One Year, so much of an Act of the last Session of "Parliament, as increases the Duties payable on Sugar imported "from the East-Indies," whereupon

The said Bill was read.

It was then, on a motion,

Resolved Unanimously, That the Honourable Court of Directors be requested to investigate the circumstances attending the culture and manufacture of Sugar in British-India, and the grounds and effects of the regulations which obstruct its consumption within the United Kingdom; and that they do, at their earliest convenience, submit the result thereof to this Court.

AT A

COURT OF DIRECTORS,

Held on Wednesday the 31st July 1822.

Court of Directors, 31st July 1822.

The Court adverting to the Resolution of the General Court of the 26th instant, that the Court of Directors be requested to investigate the circumstances attending the culture and manufacture of Sugar in British-India, and the grounds and effects of the regulations which obstruct its consumption within the United Kingdom, and to report the result of such investigation to the General Court of Proprietors at their earliest convenience;

It was, on a motion,

Ordered, That it be referred to the Committee of Buying and Warehouses to take the subject of the said Resolution into their consideration, and to report the result to this Court.

AT A

COURT OF DIRECTORS,

Held on Wednesday the 11th December 1822.

Court of Directors, 11th Dec. 1822.

A Report from the Committee of Buying and Warehouses, dated this day, being read, stating that, in pursuance of the Court's reference of the 31st July last, they have taken into consideration a Resolution of the General Court of Proprietors of the 26th of that month, that the Court of Directors be requested to investigate the circumstances attending the culture and manufacture of Sugar in the East-Indies, and to report the result of their investigation to the Court of Proprietors; and the Committee submitting the result of their inquiry, in consequence of such reference,

Ordered, That the said Report lie for consideration until Tuesday next.

AT A

COURT OF DIRECTORS,

Held on Tuesday the 17th December 1822.

Court of Directors, 17th Dec. 1822.

A Report from the Committee of Buying and Warehouses, dated the 11th instant, which was read in Court on that day and ordered to lie for consideration, being again read, stating that, in pursuance of the Court's reference, they have taken into consideration a Resolution of the General Court of Proprietors of the 26th July last, that the Court of Directors be requested to investigate the circumstances attending the culture and manufacture of Sugar in the East-Indies, and to report the result of their investigation to the Court of Proprietors; and the Committee stating the result of their inquiry in consequence of such reference, and submitting various documents which they have caused to be collected, with the view of furnishing information on the subject generally;

Resolved, That this Court approve the said Report; and that the same, together with the documents therewith submitted, be laid before the General Court of Proprietors to be held to-morrow.

AT A

GENERAL COURT

OF THE UNITED COMPANY OF MERCHANTS OF ENGLAND TRADING TO THE EAST-INDIES,

Held at their House in Leadenhall-Street, on Wednesday the 18th December 1822.

General Court, 18th Dec. 1822.

The Chairman adverting to the Resolution passed at the General Court on the 26th of July last, requesting the Court of Directors to investigate

investigate the circumstances attending the culture and manufacture of Sugar in the East-Indies, and to report the result of their investigation to the Court of Proprietors, laid before the Court the undermentioned papers; *viz.*

General Court, 11th Dec. 1822.

A Resolution of the Court of Directors held on Tuesday the 17th December 1822.

A Report from the Committee of Buying and Warehouses, dated the 11th December 1822, with a voluminous Appendix.

And the said Resolution and Report having been read,

It was moved, and on the question,

Resolved, That the Report now read, with the documents therein referred to, be printed, for the use of the Proprietors.

By the COMMITTEE of BUYING and WAREHOUSES.

Report of Committee of Buying and Warehouses, 11th Dec. 1822.

IN pursuance of an order of Court of the 31st of July last, your Committee have proceeded to take into their consideration a Resolution of the General Court of Proprietors of the 26th of that month, which Resolution is as follows:

" *Resolved Unanimously*, That the Honourable Court of Directors
" be requested to investigate the circumstances attending the culture
" and manufacture of Sugar in British India, and the grounds and
" effects of the regulations which obstruct its consumption within
" the United Kingdom, and that they do, at their earliest convenience,
" submit the result thereof to this Court."

Your Committee commenced upon their present inquiry by adverting to the proceedings of a General Court of Proprietors, which was held upon the 15th March 1792, for the particular purpose of considering an application intended to be made to His Majesty's Ministers, or to Parliament, for lowering the duties then payable on East-Indian Sugar: upon which occasion a Report of the Committee of Warehouses, dated the 29th February 1792, relative to the culture and produce of Sugar in British India, was read, and ordered to be printed for the use of the Proprietors.

The matter and arrangement of that Report having been generally approved as suitable to the subject, your Committee apprehend that they cannot better perform the duty now committed to them, than by continuing, to the present period, a detail of the various particulars which composed the former Report, and presenting the same for the information of the General Court, together with further and recent documents, serving fully to elucidate the course which this important branch of commerce has since taken; and from these documents your Committee propose to answer the question that is pro-

Report of Committee of Buying and Warehouses, 11th Dec. 1822.

propounded by the General Court, *viz.* to ascertain the causes which obstruct the consumption of East-India Sugar in the United Kingdom.

At the date of the former proceedings of the General Court, there was no very distinct information upon record of the past or present state of the culture of Sugar in Bengal and the adjacent provinces. It was matter of general belief, that every part of India produced Sugar, and had done so for time immemorial: but the publications of that day (very unfortunately, as your Committee view it) greatly misled the British Public, by asserting that the commodity was so abundant, and the price so low, that Indian Sugar could be obtained in any quantity, at about five shillings sterling per hundred-weight.

Authentic and distinct information being indispensable, it was ordered, agreeably to a suggestion contained in the former Report, that the Collectors of the Indian Revenues should be called upon to ascertain various particulars relative to the existing state of the Sugar cultivation, its increase or decrease; whether it laboured under any peculiar disadvantages which could be removed by proper encouragement; what was the quantity of land fit for sugar but lying waste, and various other particulars, which were comprised in twenty-six separate heads of inquiry.

It is proper to notice, that, previous to the arrival of the above instructions in India (which took place in September 1792) the Board of Trade at Calcutta had entered into the consideration of the Sugar Trade with much zeal, and had recorded some important commercial documents thereupon; which arriving in England before the required Reports of the Collectors of the Revenue,* were of great use in explaining the subject, which at that time highly interested the Public, who were very inadequately supplied with Sugar, and which of consequence bore a high price.

First Appendix. Your Committee have caused a complete collection to be made of the papers that are entered upon the Indian records, which appear to be useful towards a full understanding of the culture and manufacture of Sugar in India.

Second Appendix. A collection of the Court's correspondence with the several Presidencies respecting Sugar is also annexed.

Third Appendix. Your Committee have further caused a collection of documents to be prepared from the writings of scientific persons of Indian experience on

* The Reports of the Revenue Collectors will be found in p. 163 to 182 of the First Appendix to this Report: it is proper to remark, however, that the Revenue Reports are not drawn up directly in answer to the questions put by the Court of Directors in April 1792, but to certain queries of the Board of Trade, dated the 7th of August 1792, which will be found in p. 61 of the First Appendix. The twenty-six questions of the Court of Directors do not appear to have been transmitted to the Collectors, but to have been sent to the Commercial Agents at the Factories in pursuance of a Minute of the Board of Trade of the 12th October 1792, p. 125 of the First Appendix. The answers of the Commercial Agents to the twenty-six questions will be found in the First Appendix, p. 133 to 162.

on the subject of Sugar, some of which were drawn up by order of the Supreme Government; which papers are herewith submitted.

Report of Comtee of Buying and Warehouses, 11th Dec. 1822.

And your Committee have also compiled a collection of statements from Parliamentary Papers, and from the Reports of the external commerce of India, also of miscellaneous statements at home, which exhibit the magnitude that the Sugar trade of India has at present attained, and also shew its details.

Fourth Appendix.

A list of the matters which constitute the Appendix to this Report is subjoined, which your Committee trust will be found to compose an interesting series of papers upon the subject.

The List here mentioned is a separate Document.

The immediate object of your Committee's inquiry remains to be stated, which your Committee are disposed to consider in the following point of view.

In the course of the thirty years which have elapsed since the former proceedings of the General Court of Proprietors relative to East India Sugar took place, this article has risen, by a regular gradation, to be an important branch of the national commerce; the quantity of East-India Sugar imported in the year ending the 5th of January 1821 having amounted to about fourteen thousand tons, and in the year ending the 5th of January 1822 to be thirteen thousand five hundred tons.

The quantity of East-India Sugar which paid duty for home consumption in the year ending the 5th January 1820 amounted to about five thousand tons, the revenue upon which was one hundred and ninety-one thousand pounds;* and the quantity which paid the home duty in the year ending 5th January 1821 was about four thousand two hundred tons, the revenue upon which amounted to one hundred and fifty-four thousand pounds.

See Fourth Appendix, p. 5 and 6.

But your Committee are now arrived at the less gratifying part of the subject. The object of the meeting of the General Court of Proprietors in 1792 was to obtain a more favourable consideration for East-India Sugars in point of home consumption duty; but in this particular the East-India sugars have not been successful. The Appendix exhibits a succinct view of the duties as they have been varied and regulated from time to time upon both West-India and East-India Sugars; and it will be seen, that from the year 1799, the East-India Sugar has been regularly charged with a larger comparative proportion of duty, until at length it has been burthened by the enactment of the 1st and 2d of His present Majesty, cap. 106.

See Fourth Appendix, p. 1.

Your Committee cannot but greatly fear, that by the joint operation of the augmented duty which is imposed upon East-India Sugar by the

* The quantity of East-India sugar which paid home-consumption duty in the year ending 5th January 1822, has not been presented to Parliament:—the amount of the duty (Fourth Appendix, p. 6) was £217,133.; the quantity therefore must have been about six thousand tons.

Report of Committee of Buying and Warehouses, 11th Dec. 1822.

See Fourth Appendix, p. 3.

the Act of His present Majesty, and of the uncertainty of its application, as set forth in the Court's Memorial to the Right Honourable the Lords Commissioners of the Treasury, under date the 7th April 1821, there is manifest danger of East-India Sugar being excluded from home consumption.

All which is submitted to the Court.

(*Signed*) JAMES PATTISON,
WILLIAM WIGRAM,
JOHN BEBB,
CAMPBELL MARJORIBANKS,
JAMES DANIELL,
HUGH LINDSAY,
JOHN MORRIS.

East-India House,
11*th December* 1822.

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FIRST APPENDIX

TO THE

REPORT ON THE SUGAR TRADE.

PROCEEDINGS of the GENERAL COURT of the East-India Company, 15 March 1792.

Proceedings of the General Court, 15 March, 1792.

At a GENERAL COURT of the United Company of Merchants of England Trading to the East-Indies, held at their House in Leadenhall Street, on Thursday the 15th March 1792, at Twelve o'Clock at Noon,

PRESENT, JOHN SMITH BURGES, Esq. Chairman, FRANCIS BARING, Esq. Deputy, with most of the DIRECTORS, and a numerous Appearance of the GENERALITY.

The Minutes of the last General Court of the 14th December were read.

THE Chairman acquainted the Court, that it is summoned at the desire of nine Proprietors, "to take into consideration an application to His Majesty's "Ministers, or to Parliament, for lowering the duties on East-India Sugar."

The Letter from the nine Proprietors was read, as follows:

"GENTLEMEN:—We, whose names are undersigned, being Proprietors of "East-India Stock duly qualified, request you will be pleased to call a General "Court of the East-India Company, to take into consideration an application "to His Majesty's Ministers, or to Parliament, for lowering the duties on East-"India Sugar; a measure highly expedient at this time, when the prices of "sugar are so high as to materially injure the consumption both of that article "and also of tea, from which the Public, as well as the Company, derive such "essential benefits.

"We have the honour to remain your obedient servants,

	"RANDLE JACKSON,	"J. N. COUSSMAKER,
	"BENJN. HAMET,	"JNO. FREE,
"London,	"JNO. COOPE,	"WM. BROWNE,
"9 March, 1792.	"THOS. EVERETT,	"COLIN MACKENZIE."
	"JNO. LUBBOCK,	

"To the Honourable the Court of Directors, &c. &c."

One of the gentlemen who signed the said letter acquainted the Court with the business for which it was called; and the following motions were made and seconded, *viz.*

"That it appears to this Court, that the present enormous price of sugar is owing to the annual importation of that article being very unequal to the increased consumption in Great-Britain and the demand for exportation.

"That the East-India Company, having been called upon by the Public to assist them, have taken the subject into their most serious consideration, and are of opinion, that they can speedily and permanently supply a considerable quantity of sugar for the relief of Great-Britain, provided they are placed on the same footing, with respect to duties and drawbacks, as the West-India planters.

Proceedings of the General Court, 15 March 1792.

"That the present high duty of £37. 16*s.* 3*d.* per cent. on East-India sugars, while the West-India pays only 15*s.* per cwt., was purely accidental, and not fixed with any prohibitory view. Sugar not having ranked among the Company's imports at the time of establishing the present tarif, it was not even named, and can only now be received, under the head of Manufactured Goods non-enumerated, at £37. 16*s.* 3*d.* per cent. *ad valorem*.

"That the importation of East-India sugar is not only essential to the relief of the British consumer, but of the utmost moment to the Public at large: who, besides profiting by the increase of revenue which must arise from an increased importation, are entitled by law to three-fourths of all the profit which may be made by the East-India Company above eight per cent. upon their capital.

"That if the importation of East-India sugar is not allowed (the present duty operating as a prohibition), the sugar trade, and the carrying trade attached to it, must inevitably be driven into the hands of foreigners; who have already sent, and are still sending, ships from various ports of Europe and America to India to purchase that article.

"That therefore it is absolutely essential to the relief of the British consumer, the prosperity of the public revenue, and the preservation of the sugar trade, with its attendant carrying trade, to Great-Britain, that sugar (being the produce of the British territories in the East-Indies) be received into this country upon equal terms with sugar produced by other British plantations.

"That the Court of Directors be requested to lay these Resolutions before the Lords Commissioners of His Majesty's Treasury, accompanying the same with their own earnest representations in the name of this Court. That they be further requested to take such other steps as to them shall appear necessary, to obtain an equalization of duty, and to lay their proceedings before a General Court."

The Report from the Committee of Warehouses, dated the 29th of February last, was called for, and extracts of the same were read.

Then the question on the said motions being put, they were carried in the affirmative.

On several motions it was

Resolved, That the Report of the Committee of Warehouses relative to the Culture and Produce of Sugar in the East-Indies, be printed for the use of the Proprietors.

Resolved, That the thanks of this Court be given to the Court of Directors, for the steps they have taken relative to the importation of sugars from the East-Indies.

No farther business occurring, the Court then, on the question, adjourned.

REPORT relative to the Culture and Produce of SUGAR in the East-Indies, 29 February 1792.

THAT the only true and effectual way in which Great-Britain can be benefited by the territorial acquisitions in India, is through the medium of an extensive and well-regulated commerce, your Committee flatter themselves will be readily admitted. Actuated by this principle, your Committee, since the Court were pleased to entrust to their care the more immediate superintendance of the Company's commercial concerns, have not merely confined their attention to the improvement and extension of those articles of which the Company's investments usually consisted, but they have also turned their thoughts to the introduction of such *new commodities*, as, under a suitable degree of encouragement, might afford a reasonable prospect of becoming advantageous objects of pursuit.

In this respect, the article of sugar, among others, some time since presented itself to notice, and as your Committee conceived, with the fairest claims for consideration. It is a natural production of the Bengal and surrounding provinces, where it is cultivated to a very great state of perfection, and, in point of

of produce, is capable of being carried to any extent for which a demand can be found. The consumption, also, in this country and on the Continent, is at present immense*, and your Committee are of opinion it is capable of being carried still much further, were the article supplied at a less burthensome rate of cost.

Report of Committee of Warehouses, 29 Feb. 1792.

Upon inspecting into the prices at the London market for a series of years preceding, they were found on an average to have been as follow, *viz.*

		s.	*d.*	
1774	——	36	4	The hundred-weight.
1775	——	34	0	
1776	——	33	3	
1777	——	38	3	
1778	——	51	3	
1779	——	51	6	
1780	——	56	2	Less for exportation by the whole of the duty paid on importation.
1781	——	54	9	
1782	——	66	4	
1783	——	51	2	
1784	——	43	1	
1785	——	41	2	
1786	——	42	3	
1787	——	50	0	
1788	——	47	6	

In order to enable the Company to meet these prices with any degree of success, two very powerful obstacles presented themselves, to be overcome, namely, the high rates of duty and freight: but as your Committee were not without hopes of the Court being able eventually to procure a reduction on both these points, your Committee determined upon an essay, by way of experiment; and accordingly, in the month of April 1789, they submitted to the Court some heads of instrustions to be sent to the Government of Bengal, directing, among other articles, that a quantity of sugar should be sent home upon trial.

The Court were pleased to approve of these instructions†, and they were transmitted accordingly.

It was the intention of your Committee to have waited the issue of this first concern before they proceeded further in the business; but in the month of February 1791, Lieutenant John Paterson, of the Bengal Establishment, having, in a Memorial addressed to the Court, stated that sugar could be cultivated in Bengal with many superior advantages, and at a much less expense than in the West-Indies, and also submitted some ideas on the eligibility of the Company engaging in this branch of commerce; and the Court having referred the said Memorial to your Committee to examine and report their opinion thereon, your Committee lost no time in giving the subject every degree of consideration it appeared to merit. They accordingly had several interviews with Lieutenant Paterson, from whom they obtained much satisfactory information on the several particulars stated in his Memorial. Your Committee, however, at the same time wishing to proceed with the greatest caution and circumspection, judged it right to consult with some of the most experienced of the Company's Servants lately returned from Bengal‡, on whose integrity your Committee placed great reliance, and who, from their local knowledge, were enabled to assist your Committee in forming a right judgment on many points which came before them; and upon the whole, your Committee, as the result of a mature investigation, were of opinion, That although there was every reason to think that sugar might be rendered an advantageous article of traffic, yet they did not think it expedient that the Company themselves should engage as the immediate planters and manufacturers. On this being made known to Lieutenant Paterson, he offered to undertake a plantation on his own account, provided the

* In Great-Britain alone, the annual consumption is computed to be but little short of two hundred millions of pounds weight.

† Vide Par. 57 of General Letter to Bengal in Commercial Department, 8th April 1789. Paper No. 1, annexed to this Report.

‡ Vide Minute Committee Warehouses, 16th Feb. 1791, containing the sentiments of Charles Grant and Richard Johnson, Esqrs. on the propriety of the Company undertaking sugar plantations.

Report of Committee of Warehouses, 29 Feb. 1792.

the Company would engage to purchase its produce on certain specific terms. As this proposal so completely accorded with the main object your Committee had in view, and as the complexion of affairs at the time (sugar being then greatly on the rise, owing to an expected deficiency of crops from the West-Indies) seemed to point out the propriety of taking some decisive measures without further delay, your Committee did not hesitate to submit to the Court as their opinion, that Lieutenant Paterson's offer should be acceded to. The Court concurring in this opinion, the heads of an agreement were framed*, and suitable instructions were accordingly transmitted to Bengal for carrying the same into effect.

Your Committee fearing their report will otherwise be sufficiently large, forbear to state in detail the various distinct articles comprized in the agreement here spoken of, conceiving they must be fully in the recollection of the Court. They will, therefore, content themselves with here stating only the concluding paragraph of those instructions, referring for further information, should any be wished, to the General Letter to Bengal of the 6th May last, where all the particulars will be found connected in one point of view.

Extract of the Court's letter to Bengal, dated 6th May 1791, Paragraph 92.—"Having thus stated at large the terms and conditions upon which we "have embarked in this concern, and provided, as far as we are able to foresee, "against any contingency that may possibly arise in carrying it into effect, it "remains only for us to add, that, as improvements in cultivation and extension "of commerce are at all times desirable objects of pursuit, and as it is sufficiently "obvious that the most decided advantages must accrue to Bengal in adding to "the list of her export commodities an article of so general a consumption as "the one in question, we cannot entertain a doubt but every exertion and "attention on your part will be manifested, to ensure, as far as may be, a successful issue to our views on this subject."

Much about the time your Committee were negociating this agreement with Lieutenant Paterson, the Houghton arrived from Bengal, on which ship the Bengal Government, in consequence of the orders of the 8th April 1789, already quoted, had consigned about five tons of sugar. Upon its being received in the warehouse, it was, as speedily as possible, brought to sale†, and produced from 88*s.* 6*d.* to 105*s.* per cwt., or on the average 92*s.* per cwt.

As your Committee were, however, uncertain whether this extraordinary price arose from the peculiar state of the markets at that period, or from any real or supposed perfection of quality it might possess superior to the West India sugars, your Committee caused samples of it to be sent to Messrs. Bracebridge and Travers, two eminent refiners, for the purpose of receiving their opinions of its qualities. In a private letter from Mr. Travers addressed to Francis Baring, Esq. dated 19th April, 1791, Mr. Travers remarked, "That it proved "extremely different in its nature from any sugar that had ever passed his "pans; that it had no disposition to granulate like West India sugar, though "tempered with strong lime-water; and now that it has undergone the operation of claying, it is become very soft, and of the nature of soap when it has "lain a long time inwater."

This information being received just after the period of the Company having closed an agreement with Lieutenant Paterson for the purchase of all the sugars he should furnish during a period of twelve years, would have operated very much to narrow the prospects of your Committee, had not another paragraph in the same letter stated it as Mr. Travers's opinion, "That it was an "article deserving the serious attention of the Directors, and that, under the "superintendance of an able manager, it might amply reward those who should "seriously set about its cultivation."

On the 9th May 1791, Messrs. Travers and Bracebridge having severally completed their refinement, delivered in their reports, in substance as follows:

Report

* Vide Proceedings of the Committee of Warehouses, 8th April, and Joint Committee of Correspondence and Warehouses, 12th April 1791.

† Sold 2d March 1792.

Report of Mr. Travers.

Report of Committee of Warehouses, 29 Feb. 1792.

	Cwt. qr. lb.	Cwt. qr. lb.		£.	s.	d.
"The quantity of produced	1 0 14	0 1 1	Net Sugar, at 80*s.*	1	2	3
		0 1 23	Syrup, at 50	1	2	10
		0 1 0	Heading, at 60	0	15	0
		0 1 16	Scum, at 10	0	3	10
				3	4	0
"Charges for working				0	4	0
				£3	0	0

"The sugar is of too soft a nature for the pan, but no doubt, if differently "treated abroad, it may be found to answer."

Mr. Bracebridge's Report.

	Cwt.	qr.	lb.
"The gross weight of the parcel	1	2	6
"Tare of the box, a cloth bag, and 3lb. reserved for samples	0	1	26
Refined ...	1	0	8
"Which produced four small loaves	0	1	14
"Syrup.....	0	2	3
"Scrapings	0	0	2
"Scum and waste	0	0	17
	1	0	8

"From sugar of a good strength and quality there should be, on the average, "one-half of refined in the first produce; in the above there is 18lb. less. But "a great allowance must be made for the waste in boiling so small a quantity "in large vessels. Out of the four loaves, one only is perfect; this is owing "partly to the weakness of the sugar, and partly to the curiosity of the workmen, "in looking at them before they should have been taken out of the moulds." Messrs. Bracebridge and Co. further added, "That the expensive works of "their trade had, for many years, stood still four months out of the twelve for "want of sugars to refine; and there could be little doubt, therefore, that the "Bengal sugar would be always acceptable in the London market, even in its "present state: but that they were much inclined to think its quality might be "greatly improved by better management in the country, and that it would "certainly be found to deserve the Company's attention and encouragement."

Your Committee also received the following Report from another person of eminence in the trade.

"The appearance of the East-India sugar sold at your last sale gave me little "hopes of its answering the purposes of refining, on account of its being "clammy, yellow, and soft, with small grain; yet, from the large crystals of the "candy from the East (much larger and stronger than British West-India sugar "will produce), I was induced to think that its natural qualities were concealed "by improper treatment of the cane-juice, and that by a new solution it might "in a great degree be restored.

"I have not been much disappointed in my expectations, for, in the process "of refining, its natural qualities are good; and, I conceive, had it been pro-"perly tempered or limed in the first boiling, it would have carried off all its "impurities; would have given it a larger grain, which is the genuine essential "salt of the cane; the particles of sugar would have disengaged themselves from "the clammy substance (its only defect), and thereby would have been equal in "strength to the most favoured of our West-India sugars."

From these Reports, and from the confidence your Committee entertained of Lieutenant Paterson's knowledge and ability to treat the article after the most

Report of Committee of Warehouses, 29 Feb. 1792.

approved methods made use of in the West-Indies, your Committee were relieved from all anxiety touching its quality; but, on the other hand, they experienced a most severe disappointment in regard to the duty. Your Committee flattered themselves that, considering the relation in which Bengal now stands to this country, no difficulty would have intervened to prevent the article from being charged at the same rated duty as is fixed for sugar the produce of the British Plantations; and in some conversations between the Company's officers and the officers of the Crown, this point seemed to be considered so much determined, that at the sale of the parcel by the Houghton, the buyers were publicly informed, it was sold subject to the same duty and drawback as if imported from the British plantations. Very contrary, however, to the expectations that had thus been formed, when the proper time arrived for adjusting the customs by that ship, the Revenue officers, on account of sugar not being particularly specified in the schedule of East-India commodities, charged it as a manufactured article, with the *ad valorem* duty of £37. 16*s*. 3*d*. per cent. on the gross sale price. As this was a circumstance that could not but very materially affect the Company's future views in regard to this article, an application was made to the Right Hon. Lords Commissioners of his Majesty's Treasury, setting forth all the circumstances of the case, and concluding with a request, that their Lordships would be pleased to afford the Company relief, by admitting their sugars to be imported, *subject to the same duty and drawback as if imported from the West-Indies.*

It is with much concern your Committee are compelled to add, that this application did not produce the desired effect; but as the Court have very recently made a second application to the same purport, which now lies before their Lordships for consideration, your Committee are still willing to hope the Company may receive from their Lordships that indulgence, to which, with all due deference to their Lordships' judgment, they humbly presume themselves so well entitled.

At the period when the above-recited transactions were taking place, the sugar trade of Europe was beginning to be deranged; but since then a most extraordinary and unlooked-for convulsion has taken place. The most productive of all the West-India Islands, St. Domingo, has been ravaged by civil commotions, and many of its choicest plantations are totally destroyed. From the latest accounts received it appears, that the devastations which for a time seemed to have subsided, have again been carried on with ungovernable fury; so that but little of its productions are to be at present expected, or perhaps for some period to come.

This calamity has not affected France alone, its influence has been also felt in this country. The several Continental markets that were furnished by France, and even France herself, now look to Great Britain for a supply. This has created a vast foreign trade; from which circumstance the price of sugar is now at such an exorbitant rate of cost, as to be most severely felt by the lower and middle orders of the community; and your Committee feel it their duty to remark, that should the evil much longer continue, they are not without their fears that it may very seriously endanger the consumption of tea, as it is a fact well known, that many persons abstain altogether from the use of sugar, rather than submit to the enormous price to which it is now advanced.

Your Committee are informed, that raw sugar from the West-Indies, of the lowest description of quality, is now selling in the market at eighty-one shillings the hundred-weight, which is equal to ninepence the pound at the first hand, and that the article still looks upward. By comparing this price with the average of the years before quoted, it will be seen in how great a degree the Public are sufferers, and how indispensably necessary it is that every measure should be resorted to, from which any relief can be expected. In stating this fact, however, your Committee must take the liberty of observing, it is very far from their intention to infer, that any undue advantage has been taken of the public necessity. Your Committee consider the benefits, however great, that have ensued to the West-India merchants, planters, &c to have been fairly and honourably derived from a variety of concurring circumstances, as little to be looked for as on their part to be prevented; and that, in availing themselves of the opportunity of disposing of their commodity at the best market that was open to them, they have been governed only by the fair principles of mercantile adventure.

Your

Report of Committee of Warehouses, 29 Feb. 1792.

Your Committee from these considerations, as well as from the Company having been publicly called upon * to lend their assistance towards effecting a reduction of the price of sugar, by encouraging importations of it from the East-Indies, think the present a most favourable opportunity for making a vigorous effort to secure to the Bengal provinces a participation in this important article of trade.

With a view of better enabling them to determine upon the measures it may be necessary to pursue in order to accomplish this important end, your Committee judge it may not be amiss to take a brief review of the rise, progress, and present state of the trade in this article in Europe, to which they will add such information as they have been enabled to collect respecting its former and present state in Bengal.

A Brief Account of the Rise, Progress, and present State of the Sugar Trade in Europe. †

SUGAR was produced in Europe, and formed an article of its traffic, long before the discovery of America took place. Its origin is held to have been from China, where it still greatly abounds, and from whence it passed through the East-Indies and Arabia into Europe. It was first planted in Sicily about the beginning of the twelfth century, to which place it was brought from yprus.

From Sicily it was carried to Madeira, about the year 1420, as also to the Canary Isles, from which latter places the Portuguese transplanted i to Brazil. There are, however, those who think that the Portuguese, who, before they planted it in Brazil, were in possession of the coast of Angola in Africa, where the sugar-cane grew spontaneously, took it from thence to Brazil.

At Brazil the Portuguese cultivated largely, and for a long period supplied the whole of Europe.

From Brazil it was transplanted to Hispaniola in 1506, as also to the Spanish dominions in Mexico, Chili, and Peru.

In 1641 the cane was first planted in the English colony of Barbadoes, from whence it had been brought from Fernambuque, in Brazil; but the art of manufacturing sugar was not sufficiently understood till two or three years after, when some of the planters were so industrious as to make a voyage to Brazil, from whence they brought better instructions and more plants; after which the culture was attended with so much success, that it was taken up in the other British West-India islands; and lastly by the French, Dutch, and Danish Colonies.

Before sugar was brought to Europe from the Brazils, it being both scarce and dear, the consumption was chiefly confined to syrups, conserves, and medicinal compositions. The ingredient used for the more domestic purposes of sweetening was honey. The Portuguese brought it into more general demand, yet still the consumption was but limited; but since the use of tea, coffee, chocolate, sweets, confectionary, &c. has so universally obtained, sugar is become, in a manner, a necessary of life, and forms at present one of the most distinguished articles of European commerce.

The success that attended the labours of the first British planters was such as amply rewarded them for their perseverance and industry. By being enabled to undersell the Portuguese, they soon laid the foundation of a flourishing trade, which at first was open to all nations; but, upon the restoration of Charles II., the Legislature observing the detriment that accrued to this country from such open trade, it was by the several Acts of Navigation restricted to British subjects. In consequence of these restrictions, the ports of London and Bristol soon after became the grand magazines of sugar for the supply

* Vide Letter from Jackson Barwis, Esq., Chairman of a General Meeting assembled for the purpose of taking into consideration the means of reducing the present high prices of Sugar, dated 28th December 1791 Paper No. 8, annexed to this Report.

† The historical facts stated in this detail have been chiefly collected from Anderson, Postlethwayte, &c., and the several accounts have been obligingly furnished, with permission, by Thomas Irving, Esq. Inspector General of the Customs.

Report of Committee of Warehouses, 29 Feb. 1792.

supply of all the north and middle parts of Europe, reducing the Portuguese sugars of Brazil in time so low as from £8 to £2. 10s. the hundred-weight. And this export trade the English enjoyed, to the great benefit both of the nation and its colonies, until the French, in their turn, so greatly improved their sugar islands, as to be able to undersell us in most parts of Europe.

It has been thought that before the French became our rivals in the foreign markets, the value of the commodities imported into England from our West-India Islands (the chief of which at that time was sugar) had arisen to £1,500,000, of which near one-third part was exported; and from the following accounts, the authenticity of which may be relied on, the conjecture receives confirmation.

An Account of the Value of the West-India imports imported in the following Years, *viz.*

Years.	Value.	Years.	Value.	Years.	Value.
1698 —	£629,533	1709 —	£645,689	1720 —	£1,117,576
1699 —	586,255	1710 —	780,505	1721 —	852,529
1700 —	824,246	1711 —	556,198	1722 —	1,015,617
1701 —	738,601	1712 —	648,190	1723 —	1,087,254
1702 —	476,168	1713 —	762,248	1724 —	1,160,568
1703 —	626,488	1714 —	843,390	1725 —	1,359,185
1704 —	489,906	1715 —	999,412	1726 —	1,222,511
1705 —	706,574	1716 —	1,104,188	1727 —	1,039,513
1706 —	537,744	1717 —	1,204,057	1728 —	1,498,023
1707 —	604,889	1718 —	896,031	1729 —	1,515,421
1708 —	592,750	1719 —	875,358		

It was about this period that the French, jealous of the growing prosperity of this country, first began to plan and carry into execution those measures, which were in the end the means of aggrandizing their own colonies, and, as has been already noticed, of depriving us of the foreign markets. In the undermentioned years the imports into England were as follow:

Years.	Value.	Years.	Value.	Years.	Value.
1730 —	£1,571,608	1736 —	£1,423,039	1742 —	£1,309,886
1731 —	1,310,580	1737 —	946,423	1743 —	1,404,610
1732 —	1,315,458	1738 —	1,475,910	1744 —	1,156,952
1733 —	1,618,013	1739 —	1,566,838	1745 —	1,024,097
1734 —	1,141,068	1740 —	1,185,107	1746 —	1,148,124
1735 —	1,460,609	1741 —	1,402,986	1747 —	941,116

In this short space of time the French had made such almost incredible improvements, that the island of St. Domingo, which in 1726 was estimated to contain only 200 sugar plantations, making one with another 2,000 cwt. of sugar each, or 400,000 cwt., which is equal to about 33,000 hogsheads of 12 cwt. each, was in 1742 stated to produce 848,000 cwt., or 70,666 hogsheads of 12 cwt. each. The islands of Martinico, Guadaloupe, and the other lesser isles, were also stated at 622,500 cwt., making in the whole 1,470,500, or about 122,500 hogsheads of 12 cwt. each; of which it was supposed 80,000 hogsheads or about 960,000 cwt. were exported to Holland, Spain, Hamburgh, and other foreign markets.

The British islands were in the same year stated to have imported into Great Britain ..... 60,950 hogsheads
Shipped to the northern colonies, and foreign markets..... 5,000

65,950, or 791,400 cwt.

Of which 60,950 hogsheads imported into Great Britain were exported from thence to Ireland and all foreign markets..... 5,236 hogsheads
Leaving for consumption in Great Britain 55,714
Or about 668,568 cwt.

Total produced by the French ..... 1,470,500 cwt.
English 791,400

Excess by the French ..... 679,100 cwt.

It

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It was nevertheless allowed, that the British West-India Islands, in time of profound peace (England being in 1742 at war with Spain) might produce 75,000 hogsheads, of which 70,000 might be consumed in England, which, at £15 each, amounts to £1,050,000: so that it appears the French had increased their produce from about 30,000 to 120,000 hogsheads, or in a fourfold proportion, while England had only increased from about 45 to 75,000 hogsheads.

This declension, however, of the amount of the imports from our British West-Indies, soon assumed another appearance; and from the following accounts it will be seen, that notwithstanding the loss of the foreign markets, the islands have been in a state of progressive improvement. It must, however, be remarked, that there is the strongest reason to believe the French islands have been equally successful, and that this has not proceeded from either nation having made inroads upon the commerce of the other, but from the increased demand for West-India commodities, as well in Great Britain as in every part of Europe.

In the undermentioned periods the imports appear to have been as follow, *viz.*

Years.	Value.	Years.	Value.	Years.	Value.
1748 —	£1,615,122	1763 —	£2,254,231	1778 —	£3,059,922
1749 —	1,478,075	1764 —	2,391,552	1779 —	2,836,489
1750 —	1,514,452	1765 —	2,196,549	1780 —	2,612,236
1751 —	1,444,775	1766 —	2,704,114	1781 —	2,023,546
1752 —	1,428,824	1767 —	2,690,673	1782 —	2,612,910
1753 —	1,838,137	1768 —	2,942,717	1783 —	2,820,387
1754 —	1,462,601	1769 —	2,686,714	1784 —	3,531,705
1755 —	1,867,256	1770 —	2,110,026	1785 —	4,400,956
1756 —	1,687,177	1771 —	2,979,378	1786 —	3,484,025
1757 —	1,906,147	1772 —	3,530,082	1787 —	3,758,087
1758 —	1,858,425	1773 —	2,902,407	1788 —	4,307,866
1759 —	1,833,646	1774 —	3,574,702	1789 —	3,917,301
1760 —	1,861,668	1775 —	3,688,795	1790 —	3,854,204
1761 —	1,953,622	1776 —	3,340,949		
1762 —	1,762,406	1777 —	2,840,802		

But as these sums include the whole of the West-India products, and as value is but an uncertain method of determining in respect to the quantity of a commodity, the price of which is subject to fluctuation, your Committee, for the purpose of confining themselves more immediately to the object before them, have procured:—

An Account of the Quantity of British Plantation Sugar imported into England between the 5th January 1699 and the 5th January 1755, and thereafter into Great-Britain to the 5th January 1792. Also, an Account, for the same Periods, of the Quantity of Raw and Refined Sugars exported, distinguishing each Year, and the Raw from the Refined.

	Imported.			Raw Sugar exported.			Refined Sugar exported.		
	Cwt.	qrs.	lb.	Cwt.	qrs.	lb.	Cwt.	qrs.	lb.
1699 —	427,573	2	25	182,325	2	4	14,302	0	20
1700 —	489,326	1	7	165,391	3	16	17,644	2	23
1701 —	435,465	1	21	133,917	3	11	3,475	1	17
1702 —	259,062	3	6	45,036	1	5	3,908	2	24
1703 —	408,914	0	1	84,016	2	26	621	1	25
1704 —	315,837	2	12	133,713	1	8	1,339	0	15
1705 —	370,157	1	7	71,822	1	7	690	3	18
1706 —	335,873	3	3	107,217	0	16	1,846	2	23
1707 —	388,267	3	26	131,832	2	25	2,156	2	13
1708 —	377,107	2	11	64,180	3	6	2,365	1	18
1709 —	397,570	3	12	74,377	3	23	9?4	0	18
1710 —	507,662	1	21	117,075	2	5	2,146	2	21
1711 —	366,394	1	26	82,142	2	24	1,800	2	16
1712 —	423,541	0	1	119,567	1	8	8,579	2	18

* The accounts preceding refer to England only; those for the year 1771, and all subsequent, are for England and Scotland.

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Years.	Imported. Cwt.	qrs.	lb.	Raw Sugar exported. Cwt.	qrs.	lb.	Refined Sugar exported. Cwt.	qrs.	lb.
1713 —	503,528	1	8	184,609	0	12	3,493	1	10
1714 —	512,221	3	0	158,996	3	6	3,482	3	5
1715 —	617,414	3	11	143,337	1	13	4,481	3	16
1716 —	684,759	2	16	161,941	3	3	4,549	0	1
1717 —	763,175	3	14	290,179	2	11	9,993	0	2
1718 —	566,885	0	1	124,375	1	13	13,188	1	9
1719 —	544,634	0	25	167,622	0	20	3,644	2	19
1720 —	706,385	3	20	121,778	0	9	3,106	3	7
1721 —	497,611	0	21	66,743	3	11	3,786	2	25
1722 —	616,941	0	9	83,609	2	5	5,245	2	2
1723 —	660,766	2	9	63,479	1	7	4,914	2	12
1724 —	729,133	2	13	110,088	1	11	5,177	2	19
1725 —	851,952	2	25	147,408	2	1	6,293	3	5
1726 —	668,346	1	9	146,915	3	22	8,414	2	7
1727 —	645,158	0	1	112,699	3	21	11,073	3	1
1728 —	972,240	0	1	210,320	3	23	29,134	1	4
1729 —	994,761	3	24	158,746	2	13	13,686	1	2
1730 —	1,024,078	2	3	167,980	1	12	14,538	0	23
1731 —	818,277	1	12	95,832	0	1	21,077	2	26
1732 —	822,844	3	15	121,904	3	18	16,511	3	18
1733 —	1,001,784	2	0	102,274	0	5	27,008	2	5
1734 —	695,679	3	9	44,932	0	8	13,275	0	26
1735 —	903,634	2	22	69,899	2	25	21,070	1	0
1736 —	877,591	0	24	58,569	3	26	19,706	2	24
1737 —	550,900	1	10	40,779	3	17	11,331	3	6
1738 —	864,252	1	0	49,437	1	6	9,197	1	23
1739 —	951,073	3	4	63,149	0	3	15,881	2	10
1740 —	706,947	0	8	67,144	2	16	15,046	1	9
1741 —	886,124	1	0	68,450	0	3	19,449	3	15
1742 —	731,410	3	11	50,231	0	10	12,599	3	24
1743 —	895,134	1	26	151,126	3	11	26,624	3	14
1744 —	724,411	2	14	58,198	0	19	17,687	0	2
1745 —	655,199	3	0	78,344	3	9	17,689	0	11
1746 —	753,472	1	19	92,826	2	22	13,616	3	27
1747 —	608,458	2	14	51,935	1	15	10,111	0	1
1748 —	982,588	2	13	115,727	1	11	10,801	3	21
1749 —	933,271	3	9	127,921	1	0	30,928	2	2
1750 —	915,344	2	5	107,964	0	22	21,846	3	15
1751 —	825,936	2	0	43,769	3	6	22,325	2	15
1752 —	825,121	1	16	35,712	2	16	13,508	3	20
1753 —	1,114,084	3	26	55,687	2	6	11,224	3	7
1754 —	859,131	2	12	42,818	2	17	12,298	1	15
1755 —	1,202,679	3	14	110,853	0	26	14,364	2	1
1756 —	1,051,265	3	6	206,336	2	0	30,017	3	2
1757 —	1,230,843	0	20	70,625	0	9	16,758	0	23
1758 —	1,445,628	2	3	220,824	3	14	62,771	3	0
1759 —	1,199,682	2	26	174,234	0	9	107,626	2	10
1760 —	1,374,720	2	5	143,683	1	23	58,650	3	18
1761 —	1,491,317	3	16	393,324	0	13	108,891	1	7
1762 —	1,444,581	1	4	322,253	2	7	87,033	2	23
1763 —	1,732,174	1	5	413,199	3	22	102,514	3	19
1764 —	1,488,079	0	15	197,579	0	25	176,302	3	23
1765 —	1,227,159	3	18	149,125	1	5	114,851	2	0
1766 —	1,522,732	2	19	129,236	2	4	27,602	0	10
1767 —	1,538,834	1	8	209,533	1	25	35,968	1	12
1768 —	1,651,512	2	14	227,193	3	21	39,273	2	27
1769 —	1,525,070	0	5	216,384	0	0	34,041	2	16
1770 —	1,818,229	1	23	199,738	1	9	43,609	1	19
1771 —	1,492,096	2	24	195,859	1	1	55,210	0	13
1772 —	1,829,721	0	8	183,865	2	8	31,980	3	19
1773 —	1,804,080	2	26	189,189	3	11	28,835	0	13
1774 —	2,029,725	1	25	224,942	0	7	32,513	1	23
1775 —	2,021,059	3	23	344,648	1	1	69,740	0	6

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Years.	Imported. Cwt.	qrs.	lb.	Raw Sugar Exported. Cwt.	qrs.	lb.	Refined Sugar Exported. Cwt.	qrs.	lb.
1776 —	1,726,507	1	16	315,453	1	15	68,849	0	12
1777 —	1,416,291	1	5	161,814	2	26	71,053	1	14
1778 —	1,521,457	1	24	142,763	0	17	55,921	1	25
1779 —	1,525,833	0	0	99,017	0	13	26,127	2	21
1780 —	1,394,559	1	23	118,553	2	25	38,322	3	25
1781 —	1,080,848	2	9	169,560	2	27	63,542	0	1
1782 —	1,374,269	3	24	91,261	2	4	32,467	2	6
1783 —	1,584,275	0	18	173,138	1	21	104,775	1	5
1784 —	1,782,386	0	3	140,479	3	4	131,609	1	26
1785 —	2,075,909	3	24	202,954	0	5	135,993	2	26
1786 —	1,613,965	1	14	102,033	2	7	81,750	3	1
1787 —	1,926,621	0	26	199,416	1	8	76,735	1	19
1788 —	2,065,817	1	23	145,073	2	1	85,401	1	15
1789 —	1,936,440	0	2	153,813	1	15	138,539	3	11
1790 —	1,882,106	0	4	142,185	1	3	119,817	0	4
1791 —	1,808,950	0	7	135,470	3	8	158,573	3	24
1792	from 5 Jan. to 3 March			25,674	3	25	76,946	1	23

To this Account your Committee have added an Account of the Number of Ships and other Vessels, with their Tonnage, cleared Outwards from the different Ports of South Britain to the West-India Colonies; and the total cleared Outwards from North Britain, with those entered Inwards from the same Colonies, from Christmas 1786 to Christmas 1787.

Ports.	OUTWARDS. Ships.	Tons.	INWARDS. Ships.	Tons.
Bristol	73	16,913	71	16,209
Berwick	—	—	1	127
Chepstow	1	132	—	—
Cowes	2	483	—	—
Hull	2	333	1	203
Lancaster	37	5,665	33	4,943
Liverpool	87	17,463	143	27,578
Newcastle	9	2,157	1	114
Penzance	1	120	1	164
Plymouth	4	737	—	—
Poole	1	226	—	—
Southampton	1	177	—	—
Swansea	3	579	—	—
Whitehaven	12	2,232	3	444
Total of Out-ports	233	47,257	254	49,782
London	218	61,695	252	70,418
Total of England	451	108,952	506	120,200
Scotland	77	14,629	70	12,022
Total of Great Britain	528	123,581	576	132,222

Having shewn the state of our West-India imports, your Committee will now subjoin the best information they have been able to procure respecting those of the French.

Their flourishing condition in the year 1742 has already been pointed out; it further appears, from an account published in France in 1770, that St. Domingo yielded of sugar two-thirds brown 160,000 hogsheads of 10 cwt. each, or 1,600,000 cwt., which, at £15 per hogshead, or 30*s.* per cwt., amounted to £2,400,000

Coffee, 5,000,000 lb. at 4*d.* per lb.	83,333
Cotton, 8,000 bags of 300lb. each, at £15 per bag	120,000
Indigo, 2,000,000, at 3*s.*	300,000
Tanned leather, 20,000 hides, at 20*s.* each	20,000
Total	£2,923,333

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Your Committee also find, from an account of the products entered for exportation from this colony in the years 1783, 4, 5, 6, 7, 8, and 9, being the latest accounts made up, that they were:

	Sugar Clayed.	Do. Muscovado	Coffee.	Cotton.	Indigo.
	lb.	lb.	lb.	lb.	lb.
1783	77,339,113	44,312,919	44,573,479	4,871,718	1,868,728
1784	65,053,050	77,344,464	52,885,095	4,756,857	1,555,142
1785	66,589,357	83,610,521	51,368,109	4,486,261	1,546,575
1786	71,063,697	61,887,814	52,180,311	5,203,161	1,103,907
1787	56,182,403	72,896,676	70,003,161	6,806,174	1,166,177
1788	70,227,709	93,177,512	68,151,181	6,286,126	930,016
1789	47,516,531	91,899,963	76,286,530	6,871,204	958,626

In a review of this account it must be considered, that the above are heavier than English weights by 8 per cent. The above are also only the quantities that have paid the export duty. The produce may therefore be considered as far superior to this, it being notorious that there is a clandestine trade carried on to Jamaica and America, particularly of cotton to the former, that article not being prohibited to be received in the English islands.

Your Committee are unable to add any account of the produce of the rest of the French islands, but they understand it is generally considered in France, that St. Domingo yields about two-thirds of all their West-India produce.

Having thus stated, from the best materials your Committee have been enabled to collect, the present state of the sugar trade in Europe, your Committee now proceed to shew its situation in India; and here your Committee, for want of leisure and materials, are not able to carry their researches back to any very distant period.* But as they find some general observations on this trade stated on the Bengal Records, in a letter from a respectable society of merchants at that place, who, in the year 1776, were about to embark in this trade, your Committee will here introduce the following extract from their Memorial to the Governor General and Council.

EXTRACT Fort William Revenue Consultations, 5th June 1776.

" Formerly sugar was one of the staple articles of Bengal, and a considerable " trade was carried on in it to Madras, the Malabar Coast, Bombay, Surat, " Sundy, Muscat, other ports of the Persian Gulph, to Mocha and Judda. " Even so late as the period immediately preceding the capture of Calcutta,† " the annual exportation was about 50,000 maunds, which yielded a profit of " about 50 per cent., and the returns for which were generally in specie; so " that, in the twenty years immediately preceding the capture, it may be esti- " mated that there flowed into Bengal, for this article, no less than sixty lacs " of rupees in specie, which was all clear gain to the country, and of the most " eligible kind, the production of the ground manufactured by the natives. " And this flow was regular, always feeding, but never overcharging the " circulation.

" During the last twenty years the price of sugar has been gradually increas- " ing, and the exportation and growth diminishing in the same proportion, so " that the price is now near 50 per cent. more than it was before that period. " The charge of transportation is also greater; and the price at foreign " markets not having risen in the same proportion, the export is so trifling and " casual, that the sugar trade of Bengal is in fact annihilated.

" This branch has suffered by the same causes which have operated upon " the commerce of the country in general. The increase of the price of the " raw material and of labour have produced a proportional decrease in the " demand;

* Between the years 1664 and 1671, it appears some quantities of sugar, say about 150 tons, were imported into this country from Bantam and Benjar, where the Company formerly had settlements, as also from Masulipatam, on the coast of Choromandel, the cost of which, upon the average, was about 16*s.* per cwt. The freight at that time was 20*s.* and duty 4*s.*, making altogether about 40*s.* per cwt., and the price it sold at was from 42*s.* 6*d.* to 52*s.* the hundredweight, which yielded a tolerable profit. A further quantity appears to have been imported between 1706 and 1712, which cost about 15*s.* per cwt. and sold at about 60*s.*, the freight and duties upon which do not appear.

† In 1756.

" demand; the culture of the sugar-cane has hence rapidly declined; and " now (1776) it may be even doubted, whether Bengal produces enough for " its own consumption, since there is annually an importation from Benares, " and of candied sugar from China, the amount of both which will be found " equal to that of the trifling export which yet continues, not from the hope of " profit, but of making a more safe remittance by it than by other articles.

" It appears to us, that the extinction of this branch of commerce is not merely a " privation of gain. Even if the country had continued flourishing, the cutting off " of so great a resource must have been attended with a positive loss; but since " specie has ceased to flow into this country from Europe, and its manufactures " of cotton and silk to have the same vent as formerly at the different ports of " Asia, the loss of the sugar trade is become of much more consequence, " because the exportation of that article would, in a great degree, prevent the " drains of specie which Bengal is now obliged to send to the Malabar Coast.

" Nor are the effects of this change confined to Bengal alone; the English " interest in other parts of India suffers by it. The settlements on the " Malabar Coast, instead of giving cotton in exchange for the sugar which " they used to receive from Bengal, are now obliged to send specie to purchase " that article at foreign ports. Supposing that their cotton ultimately brings " back the same amount of specie from other places, the operation is still very " different Instead of freighting a ship from Bombay to Calcutta, and getting " back sugar, or from Calcutta to Bombay with sugar and returning cotton, " they are in the first case obliged to dispatch the ship with specie to Batavia " or China, and with her returns purchase and export cotton; or, in the second " case, to send the ship first to Batavia with specie, and from thence to " Bombay, which are tedious, expensive, complex operations, and manifestly " tend to the aggrandizement of a foreign settlement and a rival in trade.

" From this short account of the sugar trade of Bengal, we beg leave to " extend our view to the general state of it in India.

" The Dutch of Batavia, who have long shared in this trade, have at length " the greatest part of it in their hands. Formerly the rivals of Bengal, they " have risen upon its decline, and are now conquerors and tyrants, at a period " when the trade has much increased in its importance. The great vent for " sugar, as has been already observed, is on the western side of India, which, " in its turn, supplies the rest of the Continent with cotton. Since the decay " of the manufactures of Bengal and the advance of their price, others of the " same kind having been established on that side, and ours not finding a ready " or profitable sale, sugar, which is a necessary of life, is almost the only staple " article of import there, so that it enters unavoidably into every scheme of " trade for that quarter. The Dutch, sensible of this circumstance, do not, " as formerly, carry their own sugar to the places of consumption: they " oblige the sugar merchants of other settlements to come to Batavia for it, " and to pay for it in specie, absolutely refusing to take merchandize in return. " What India further requires is drawn from China, whither, in general, specie " is in the same manner carried to pay for it. By these means the English " settlements in India are, upon a moderate computation, annually deprived " of ten lacs of rupees, the greatest part of which is extracted from their " circulating specie, and the rest diverted from coming into it.

" The former annual export from Bengal amounted to at least a third of this " sum. But considering the great demand it makes for cotton, for which its " manufactures are now but occasionally taken in return, it certainly contri- " butes more than four lacs of the ten that are annually exported; and if it " now furnished the same quantity of sugar it did formerly, the saving would " be, by the increase of price at the foreign markets, about five lacs. Hence " it is still more apparent, that the restoration of its sugar trade is in every " way of essential consequence to it.

" Having maturely reflected upon the subject, we are satisfied that it is " practicable not only to restore this trade, but to improve and extend it much " beyond its former limits; and we solicit, with the utmost deference, the " indulgence of exposing to you the grounds upon which we have formed this " opinion: entreating that, whatever we shall say in support of it may be

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" understood to be offered for that purpose only, and far from being intended " to decide or to inform.

" Although the soil of Bengal is perhaps the richest in the world, yet all its " productions are of indifferent quality. It produces abundantly indeed, but " hardly any thing excellent in its kind. This plainly shews that agriculture " has never been carried in it beyond its first stage. The religion, the genius " of the people, as well as their climate, have limited them to a few of the sim- " plest wants, and, with the nature of their Government, have left them without " either desire or motive to be industrious. Times of ease have only afforded a " more plentiful supply of former wants, without creating new ones; and distress- " ful periods have still more narrowly limited both their efforts and their faculties.

" From these causes, uniformly preventive of improvement, it may well be " presumed, that agriculture has not advanced a single step in this country " since the first division of the inhabitants into distinct professions. The pro- " ductions of the country may therefore be reckoned, in a great measure, the " gift of the soil; and it has been seen, that even these could make it flourish " when it had neither rivals in trade nor a foreign tribute to pay. But now, " that many of its manufactures are removed to other countries, that it gives " away a large share of what it still furnishes, and that the remainder does not " save it from an annual exportation of specie, it is evident that it cannot afford " to remain longer in such a simple, passive state. Its burthens reduce it, in " fact, to an equality with countries naturally less fertile, and, like them, it " must adopt more activity and industry. All the improvements which art " and labour have made upon other soils, remain yet to be tried here; and " they are so many, this country is so extensive, and its soil so excellent, that " its well-wishers have reason to rejoice that so prodigious a resource yet re- " mains. But the people, as has been already intimated, are averse to innova- " tion, ignorant and timid. The bulk of them have never lifted their hopes " to the enjoyment of property, and the idea of labouring for distant objects " is unknown among them; it is therefore previously necessary to instruct " and encourage them. If the road to advantage were clearly shewn to " them, and if they were satisfied that they would be left to possess " what they should acquire, doubtless they would become more active and " enterprizing. To accomplish these purposes, we humbly conceive that no " means would be so effectual as making use of the superior knowledge and " activity of Europeans established here, and giving both to them and to the " natives, upon such conditions as may be deemed fitting, grants of uncul- " tivated lands, to be employed either for raising such articles of commerce as " can be exported, or others now imported.

" It is not for us to inquire how far the orders of the Company, or the late " Act of Parliament, oppose such a scheme; but, with respect to the former, " we beg leave, with the utmost deference, to mention, that the prohibition " which they convey against the holding of farms by Europeans, we should " apprehend to be founded, in the first place, upon a supposition that those " styled native farmers are the cultivators of the soil, not the farmers of the " revenue; in the next, that the exclusion meant is from farms actually in " cultivation, not from land that is lying waste and useless; and lastly, that " it can have no reference at all to new articles of produce or manufac- " ture. It is, at any rate, evident, that the main intention, both of the Com- " pany's orders and the Act of Parliament, is to guard the natives from " oppression, and to promote the welfare of the country. How far, under the " Government and Court of Judicature now established here by the Legisla- " ture, the occupation of waste land by Europeans can counteract that inten- " tion; how far, in short, the restrictions laid upon Europeans are necessary " in the present state of the country, or whether, since they are here, and " many without the means of subsistence, it may not be expedient to find " employments for them, useful to themselves and the state, we are far from " presuming to examine; but we believe, that every scheme by which the " welfare of the country can be advanced, must be consistent with the spirit " and meaning of the regulations laid down for the government of it, and must " therefore meet with approbation.

" By that which is here proposed, part of the vast tracks of land which now lie

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" lie uncultivated would then be used for the increase of old productions, to as " great an extent as the consumption and demand would require, and for the " growth of new ones; particularly the staple articles of India, not one of " which, we venture to say, but might be cultivated with ample success.

" Broach, which furnishes all the cotton exported from that side of India, " lies in the same latitude as Bengal. The cotton called copass, produced in " this country, is at present fit only for the manufacture of fine cloths; that " which is imported from Bombay, being stronger in its texture, is of much " more general use. We have never heard any good reason why the same " cotton should not be produced here, and in as great abundance. Doubtless " the only cause is, that the cultivation of it has never been attempted. The " article of cotton, like all others, is left here just as nature produced it; but, " in a moderate time, by greater care of what is already cultivated, and the " introduction of another kind, might be so far improved, both in the quantity " and quality, as to serve at least for all the purposes of home-consumption; " which would be an immense saving to the country, and in all probability " restore the manufactures it has lost.

" Coffee and pepper, now imported from Mocha and the Coast of Malabar, " might easily be produced; as also indigo, now brought from the Upper " India.

" Hemp, at present very bad, might be so far improved as to supersede the " use of coir cables, made from the fibres of the cocoa-tree, and common all " over India.

" Opium, now chiefly confined to the Bahar province, might be produced " in many parts of the country.

" Bengal raw-silk, which, on account of the change in its price and quality, " has been supplanted at the markets on the Malabar Coast by that of China, " might again acquire the superiority.

" And sugar, the article immediately in question, might be raised in suffi- " cient quantities *to supply the consumption of all India.* This article, however, " peculiarly requires the aid of Government.

" It is difficult to regain any branch of trade once lost; but here the manu- " facture has risen 50 per cent. in price, and the quantity produced suffices " only for home consumption. In order, therefore, to make sugar even a " more eligible remittance to the Malabar Coast than the others now obtain- " able, there must be a considerable reduction of price and increase of " quantity, neither of which can be effected without the encouragement of " Government, nor without time, labour, expense, and risk. We doubt whe- " ther any encouragement would induce the natives to take the lead in an " attempt apparently so difficult and unpromising, but we are certain that, " of themselves, they are otherwise incapable of ever bringing the manufacture " even to a state of completion. They are utterly unacquainted with the " process or machines which are used in the American Islands, and their own " are so extremely rude and imperfect, that under the happiest circumstances " this trade must have remained limited; as indeed the state of it, when the " country flourished, sufficiently evinces. For though the cane has grown in " Bengal from time immemorial, though Bengal possesses the advantage of " soil already mentioned, and that it is nearest to the places of consumption, " it never has supplied more than a third of the demand of those places. " It is no wonder then, that, upon a reverse of circumstances, the superior " ingenuity of the Chinese, joined to the regular skill of the Europeans settled " at Batavia, should entirely deprive it of the sugar trade.

" Supposing the recovery of this trade to be an object deserving the attention " of Government, we submit to the consideration of the Board, whether it be " attainable by any other means than by encouraging Europeans, distinguished " by their property, situation, and credit, from ordinary adventurers, to under- " take the cultivation and manufacture of sugar after the method practised " in the West-Indies, by such grants of unoccupied lands, and other reasonable " privileges, as we have already suggested. We admit that much will depend " on the conduct of the first undertakers; but, with proper management on

" their

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" their part, and a reasonable support from Government, we think the success " would be infallible, and that in a few years the natives would follow the new " method, which would thence soon become general throughout the country, " as the Italian mode of winding raw-silk lately introduced now is."

Your Committee find, that the Governor-General and Council, influenced by the reasonings above stated, readily complied with the request preferred to them. A grant of land was accordingly allotted, on which a sugar plantation was set on foot ; but after repeated experiments upon the soil, it was found so universally infested with white ants, that the society were obliged to drop their scheme ; and some other disappointments having also happened in the extensive undertakings of the same society, they after a time separated, but not before they had, by purchasing canes from the neighbouring districts (for the evil of white ants is but partial, and prevails most in uncultivated lands) produced both refined sugar and rum : thus evidencing the practicability of their original ideas, though that mode of producing sugars, with their other circumstances, made it inconvenient for them to persevere in it.

Such appears to have been the state of the sugar trade in India in 1776; and your Committee cannot but consider it as a circumstance much to be lamented, that so laudable an undertaking for restoring this declining branch of commerce should have failed of success, as no doubt such failure operated very much to discourage others from embarking in similar pursuits. Between 1776 and 1790, your Committee have no reason to conclude that this trade underwent any very material alteration ; as in some observations addressed to the Governor-General, Earl Cornwallis, by Mr. Bebb, an active and intelligent member of the Bengal Board of Trade, on the subject of extending the export of Bengal productions, in a letter under date the 9th July 1790, Mr. Bebb speaks of it as follows:*

" The material articles of export from Bengal are rice, sugar, raw-silk, and " silk piece goods ; the two latter said to have been very much lessened since " the Marattah war, and any of them since that time to yield but little profit.

" Exclusive of the custom payable on these articles at Bengal, and at the " other presidencies to which they are consigned, the lands which produce the " materials for these articles pay a considerable revenue to this Government, " especially those which yield sugar and mulberry. These in all places pay " double, triple, and in some even the quintuple of grain-lands.

" Some of the articles of export are peculiar to Bengal ; others are carried " from other countries to Madras and Bombay, and rival those of Bengal.

" Among the articles thus rivalled, sugar is the most valuable. It is an " article of so much importance, that the extending the export of it is of suffi- " cient weight in itself to merit consideration.

" The Bombay market is supplied with sugar from China, Manilla, and " Batavia, as well as from Bengal. All that can be purchased at Batavia by " the Bombay merchants is eagerly bought ; the vending or procuring a " cargo of sugar is even considered as a sort of favour conferred by the officers " of the Dutch Government on the Bombay merchant.

" The Marattahs, the great consumers of the sugar imported into Bombay, " are said, however, to give a preference to Bengal sugar, if it be of the same, " or nearly of the same price."

The plan by which Mr. Bebb proposed to effect an enlarged export of the Bengal productions, was by taking off the duties levied on their importation into Madras and Bombay. This, he observed, would give them a decided advantage over their rivals at those markets ; and as the price would thereby be rendered so much easier to the consumers, it was reasonable to suppose that this would lead to an increased consumption. For a copy of Mr. Bebb's observations at length, vide Paper, No. 2.

Upon Mr. Bebb's proposition being taken into consideration by the Governor-General in Council, it was agreed, That a copy of it should be transmitted to the respective Governments of Bombay and Madras, and that they should be requested

* Vide Bengal Commercial and Shipping Consultations, 14th July 1790.

requested to furnish their sentiments on the measures suggested, in order to assist his lordship in passing a final resolution on the subject. For a copy of the letters written on the occasion, vide Paper, No. 2.

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Before these replies came to hand, your Committee find the Governor-General in Council again applied to on the subject of the sugar trade, in the following letter from Mr. Lambert, an eminent free merchant at Calcutta.

EXTRACT Bengal Public Consultations, 8th September, 1790.

" To the Right Honourable Earl Cornwallis, &c. &c.

" My Lord:—I would not, at this period, intrude upon your lordship's " valuable time, which must be so fully occupied in combining and directing to " their successful issue the various and extensive operations of a just and " necessary war, were I not well convinced of your ready attention to every " object that tends in the smallest degree to promote the cultivation and " extend the commerce of these provinces.

" Under this impression, I beg leave herewith to send, for your lordship's " inspection, samples of sugar and sugar-candy made at the Chinese plantation " from common Burdwan jaggery.

" No. 1 is clayed sugar, the produce of jaggery after once boiling, and is " produced in the proportion of 4 to 10; that is, 100 maunds of jaggery " will yield 40 maunds of this sugar and 47½ maunds of molasses, losing one-" eighth, or 12½ maunds, of the original material in the process.

" No. 2 is loaf sugar made of the same material twice boiled, which yields " of this sugar a proportion of 1½ to 10, *viz.* 100 maunds of jaggery make 15 " maunds of loaf sugar, and leave 65 maunds of molasses, losing in the process " of refining one-fifth, or 20 maunds.

" No. 3 is sugar-candy made also from jaggery, after three boilings, and is " obtained in the proportion of 1 to 10, leaving a residuum of seven-tenths, " and losing two-tenths in the process; 100 maunds of jaggery giving 10 " maunds of this sugar-candy and 70 maunds of molasses, with a loss of 20 " maunds in the refining. These specimens will serve to show that the crude " jaggery, as furnished by the riotts in almost every part of this country, is " capable of producing sugar and sugar-candy, fully equal in quality to what is " made in Europe, China, or Batavia.

" To improve and extend the manufacture of an article so valuable as that " of sugar, to raise its quality, and reduce its price to such a standard as will " preclude importation and make it an object of profitable export, is a matter " of such beneficial magnitude to this country, as cannot fail to attract your " lordship's favourable regard.

" With the protection and encouragement of Government, I think I can " venture on good grounds to assert, that this desirable object would soon be " attained. But in such a country as this, where so many obstacles oppose " individual exertions, nothing but a firm and decided preference, in all our " own settlements, in favour of Bengal sugar over those of China or Batavia, " can give energy and permanence to the efforts of individuals, or induce them " to embark largely and with effect on a speculation, in which large sums have " already been lost by former projectors. At present, Bengal sugars are " subject to as high a duty when brought from any part of the country into " Calcutta, as those imported from China or Batavia, and no drawback allowed " on exportation.

" The jaggery also from which they have been made, should it have passed " Calcutta on its way to the place of manufacture, or have been purchased " therein, as most frequently happens, will have previously paid the same duty " in proportion to its value; and if from Benares, it must pay the Rajah's duty " there, as likewise at the custom-house at Manjee: so that it is possible that " the same material may have paid three different duties in its crude state, and " must, after all, pay the Calcutta customs before it can be exported.

" At Madras and Bombay the sugar of Bengal is taxed equally high as " foreign sugar. Thus, when exported from hence to either of those presi-" dencies or their subordinates, the Company exact a double, perhaps a treble,

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" possibly a quintuple duty on the refined or manufactured sugars of these " provinces; for they must pay the Calcutta customs before they can be ex- " ported from hence in a manufactured state, notwithstanding the raw material " may have previously paid the duties before-mentioned; and at Madras and " Bombay the import duty must also be paid: whereas foreign sugars, when " imported into any of our settlements, can only pay the import duty at the " place where they are landed. It therefore appears, that at Calcutta Bengal " sugars are taxed equally high as foreign sugars, besides the duty that may " have been before collected upon the jaggery or raw material; and when " exported to Madras or Bombay they are taxed higher than foreign sugars, " in all the amount of the inland and Calcutta duties.

" In England and most European states, the natural produce of the soil " and manufactures of the country, and its dependencies, are so jealously " protected by duties and exclusive regulations, that no foreign articles of a " similar kind can enter into competition with them, which gives them the " complete monopoly of their own market.

" Here, I am sorry to observe, no such preference exists, Government has " lately made very honourable sacrifices to the prosperity of Bengal, by the " abolition of the Government customs and bazar duties.

" To grant a drawback of the Calcutta duties on all Bengal sugars exported, " and to allow their importation duty free into all the other presidencies, " would not, I should hope, be thought a great addition to the before-men- " tioned liberal and voluntary gifts; and were similar indulgences granted to " every home product, the apparent loss of revenue would, in my humble " opinion, be amply compensated in the real and permanent benefits that " would result therefrom, by the extension of commerce, and consequent " increase of cultivation and productive industry.

" But should such a measure be impracticable in the present state of things, " or the immediate wants of Government preclude any further alienation of " revenue (however small) for distant advantages, an additional duty on foreign " sugars imported into any of our settlements would at least secure to Bengal " the entire consumption of our own markets; and a drawback of the Calcutta " duties on those sugars only that are exported from hence to foreign markets, " such as Mocha, Isle of France, &c. enable us speedily to enter into a power- " ful competition with our rivals. Independent of duties to facilitate more " effectually a reduction in the price of sugar, it is of the first consequence " to secure to the manufacturer a certain and quick sale for the dregs or " molasses that drain from it whilst refining.

" This residuum, your lordship will have perceived, forms a very consider- " able portion of the produce of the original material, and I know of no way " of turning it to advantage so readily as by distillation. Madras and Bombay " are at present supplied with arrack from Batavia, Ceylon, and Goa; of " course, Bengal spirits are shut out from those markets, as well for public as " private consumption; for without a preference in the public supplies, the " produce of our recent distilleries cannot enter into competition with that " which comes from those of the before-mentioned places. Government " formerly gave us that preference in supplying the troops at Madras with rum " and arrack from hence.

" The price at which it was delivered there was undoubtedly somewhat " higher than Ceylon arrack now costs; but when it is considered that all the " money paid by the Company for Batavia, Ceylon, or Goa arrack is a loss to " Bengal in the whole amount, which would be retained were the troops at " Madras and Bombay supplied from hence, the small saving that at present " may arise from the difference of price will not compensate for this disad- " vantage, combined as the consumption of Bengal spirits is with the support " of the sugar manufactory. Even this trifling saving in price would, I am " confident, exist but a short time; for we should very soon, with proper " encouragement, be able to supply them with spirits full as cheap as they " could be procured from any other part of India, by the means before " suggested, that of uniting the distillery with the refining of sugar, hitherto " unattempted here to any extent.

" As

" As a proof that I feel myself warranted in making this assertion, I will " engage, on due notice, to supply at Madras any quantity of double-distilled " Bengal rum or arrack, at two annas per gallon less than the last contract " price at which it was delivered to Government.

" Under the presumption that the troops at Madras would continue to be " supplied from Bengal as heretofore, I made about 200 leaguers of rum " soon after completing the last contract, in which I was jointly concerned " with Messrs. Fergusson and Barretto and the late Mr. Fenny, in order that " its quality might be improved by age; and, as a wholesome and good spirit, " I should not be afraid to risk comparison with what you now receive from " Ceylon as Batavia arrack, and which, I am informed, is distilled from toddy.

" I am afraid I should trespass too far upon your lordship's patience, were I " to dwell upon the claims which the Bengal distilleries have to public support, " and shall therefore only observe, that they amply supplied the fleet and army " during the last war with spirits, at a period when they could be procured " from no other part of India.

" In having presumed thus far to offer my sentiments upon a subject which " has always presented itself to my mind as of the first importance to the trade " and cultivation of these provinces, and in which I have had much practical " experience in all its branches, I trust I shall stand excused of any other " motive than that of an honest wish to promote the general prosperity of a " country with which my own interest is so strongly united.

" I have the honour to be, &c.

" A. LAMBERT."

Upon the Governor-General and Council taking this letter into consideration, it was ordered, that directions be sent to the Custom-master to state the average for one year of his receipts of duties for the last five years upon Bengal sugars of whatever kind, and upon rum and arrack, exported from Calcutta, and imported at Calcutta from different parts of the country; also a similar average of the duties upon foreign sugars imported, as well as upon jaggery.

That directions be likewise sent to the Resident at Benares, to report the average for one year of the receipts of duties for the last five years upon sugars and jaggery exported from Benares to the Company's provinces.

That the Collector at Manjee be instructed to state the amount of duties collected upon those articles that have passed his station since the establishment of the Collector's office; and,

That the Governor in Council at Madras and Bombay be requested to state the average receipts for one year of the duties collected in the last five years upon sugars of whatever kind, also upon rum and arrack imported at, as well as exported from those presidencies, distinguishing the duties upon Bengal sugars, and upon the rum and arrack of this country, from those upon the same articles that have come from the settlements of foreign nations.

For the several particulars of information furnished by the Governments of Bombay and Madras, as also by the Resident at Benares, and the Custom-masters at Calcutta and Manjee, in consequence of these orders, and of those previously issued on the subject of Mr. Bebb's observations, your Committee beg leave to refer to the Papers, No. 3, 4, 5, 6, and 7.

It will be seen by the letters from the respective Governments of Bombay and Madras, as above referred to, that the orders issued by the Governor-General in Council on the 14th July and 8th September 1790, had only been partially complied with, *viz.* at Bombay, as far as concerned the articles of sugar, rum, and arrack; and at Madras, respecting sugar only; but that both Governments had given assurances of forwarding the remainder of the information, with their opinions on the subject as desired, as soon as they should be enabled to collect the necessary accounts and statements. It appears, therefore, at the time the accounts from the Resident at Benares, the Collector at Manjee, and the Custom-master at Calcutta were recorded, that they were ordered to lie for consideration. By the advices recently received by the Swallow,

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Swallow, your Committee find a number in the packet, a paper stated to be a minute of the Governor General in Council, to the following purport:

" MINUTE, 12th August 1791. Public Department.

" The Governor General in Council has hitherto deferred the consideration " of the letters received from Fort St. George and Bombay, in reply to the " reference from hence under date the 14th July 1790, in the expectation of " the further advices promised in the letter of the 27th October 1790 from the " former, and of the 15th September 1790 from the latter.

" But these advices not being arrived, the Board think it more expedient " to proceed upon the documents already furnished, than to wait any longer " for them.

" The Madras Government have given a decided opinion, that in the pre- " sent state of the trade, the abolition of the customs at that presidency will " be attended with no material diminution of revenue, if all the customs were " to be abolished on the imports from Bengal, except on the article of rice.

" The Bombay Government are clearly of opinion, that very essential be- " nefits will result from the measure of taking off the duties on the import of " sugar from Bengal; and they say they will adopt it, from the 1st of Septem- " ber next. On all other articles of import they promise to give their opinion " hereafter.

" So many months having elapsed without this opinion being received, it is " not unreasonable to suppose that no material objection could have occurred " to extending the abolition of duties to all other articles, or else they would " have particularly brought it forward to notice; for they must be aware it ne- " cessarily follows, that if a benefit be derived from the abolition of the customs " upon Bengal sugar, benefit will equally arise from abolishing them on every " other article of Bengal produce.

" According to the information the Board at present possess, the sole point " on which there can be any hesitation in regard to making the abolition " general at Madras, Bombay, and their subordinates, is the diminution the " Company's revenue may suffer by the abolition of customs upon rice " imported at Madras, the amount of which the Board are uninformed of.

" This objection has been anticipated generally in the proceedings of " the 14th July, 1790, and so fully replied to, that it is sufficient to refer to " those proceedings.

" It may, however, be observed in respect to the particular article of rice, " that in common years the price of it is so low in Bengal, compared " with the usual prices at the places to which it is carried, that there is no " saying to what degree the exportation would extend, were it not " checked by the heavy expense of Indian shipping, and by the other " necessary charges.

" The expense of shipping is without remedy, or rather it must be left to " the natural course of things to remedy itself, if possible; and so must all " other charges except that of customs, which is a burthensome increase to the " other unavoidably heavy expenses.

" Of this charge the trade may be relieved. So far as Bengal is concerned, " there cannotbe a doubt of its being sound policy to give the import of grain " from Bengal advantages over the import of grain from other places where " the Company have no territory.

" As the war with Tippoo continues, and assistance from hence must still be " largely afforded, every measure therefore that facilitates remittance, is a " relief to the Public. A considerable export of grain to Madras will assuredly " have that tendency.

" Since the question of abolition of customs arose, there has been a most " unusual export of grain from Bengal * to the west of India, the benefit to these

* 1,200,000 bags are conjectured to have been exported. These, including all charges except frieght of ships, may be valued at 2½ rupees per bag. Thus Bengal has benefited thirty lacs of rupees, or three hundred thousand pounds sterling, by this circumstance.

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" these provinces has been extremely great, and the expense of remittance to " Surat and Bombay has fallen ..... per cent., which verifies the reasonings " upon the proceedings of the 14th July 1790. It is Resolved therefore, that " it be recommended to the Governor in Council of Fort St. George to abolish " entirely, from the 1st September next, at that presidency and its sub- " ordinates, the customs upon all goods imported from Bengal, except upon " rice, according to the following regulations, and to abolish the duties upon " rice from the 1st September next for two years, a space of time which will " put merchants upon the necessary certainty in forming their arrangements, " and will allow a fair trial of the measure.

" That it be recommended to the Government of Bombay to abolish entirely " all customs at that presidency and its subordinates, from the 1st October " next, upon all goods imported from Bengal."

From the materials thus exhibited, the Court will be enabled to judge, with a degree of certainty, of the confined state of the export trade of Bengal in the article of sugar, as it existed at the beginning of the year 1790. Your Committee, nevertheless, flatter themselves the time is arrived, when both the cultivation and commerce of that country are about to assume a more pleasing appearance. By the regulations which have been lately adopted in Bahar for letting the lands on a ten years' settlement, and which your Committee understand are carrying into effect in the other provinces, the landholder, feeling that he has a permanent interest in the soil, and is no longer subject to the rapacious exactions of a revenue farmer, who had only perhaps the lease of the district for a single year, will be induced to stimulate the riott to exert the utmost of his skill and industry in effecting improvements, the fruits of which he will now enjoy in safety, and which the former system tended rather to discourage than to excite. At the same time, the abolition of the Government customs throughout the interior of the provinces, the removal of the numberless chokeys stationed by every petty Zemindar in every district, however inconsiderable, with the more recent abolition of the Haut Gunge and Bazar duties, as well as those payable at the Company's other settlements on the Coast of Coromandel and Malabar, will give such facility and encouragement to commerce, as, your Committee conceive, all circumstances considered, will be the means of producing in abundance almost every article for which a demand, either foreign or domestic, can be found.

Your Committee trust it will not be thought they are too sanguine in the conclusions they have thus drawn. They have already pointed out the very extensive exportation that has taken place in rice, to the amount of 30 lacs of rupees; and it appears by a letter from the Board of Trade, dated 25th January 1791, that sugar, the article now more immediately under consideration, is becoming a staple commodity with foreigners, and that an export trade to America and Flanders is rising very fast in it. In the month of November 1790, about 200 tons were bought for the Company in the Calcutta market, on an exigency, without difficulty; and your Committee have been informed, from authority they cannot doubt, that in addition to that quantity there were also seven ships laden by foreigners; which demand, though unlooked-for, had no visible effect upon the price. It has also been further stated to your Committee, that a vessel, partly laden with sugar, by an accident suffered so much damage that she was unable to proceed the voyage, on which the cargo was unladen, and the sugars disposed of at a loss of 15 per cent. on their first cost: a sure proof that imports were pouring into Calcutta from the country, and that the market was by no means drained by this new channel of exportation.

Some letters from gentlemen of character and mercantile knowledge have been shown to a member of your Committee, from whence it appears these gentlemen entertain no doubts of considerable quantities being now procurable. Two of them say, " *More than sufficient to fill up any vacant tonnage that may* " *be unoccupied from the reduction of the investment;*" and another gentleman, in a letter dated August 1791, says, " *Sufficient may be procured to load home* " *twenty ships this year, and, with proper encouragement, two hundred next.*" Your Committee are, however, not so sanguine as this gentleman as to the rapid increase to be expected; but as it comes from a well-informed person upon the

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spot, they cannot withhold their assent to the position, that much larger quantities can, on an emergency, be procured, than has yet been in the contemplation of the Court: especially as, on a reference to some of the accounts stated in the Papers annexed, they find the quantities brought to market can be greatly and suddenly increased, according as the demand for the article is more or less. Thus in the first of the five years the quantity exported from Benares is white sugar 4,556 maunds; in the third year it amounts to 36,442 maunds, or eight times as much; and the fourth year it amounts to 53,024 maunds, or nearly twelve times the quantity exported in the first year. Again, in the accounts of sugars and jaggery imported into Calcutta from 1773 to 1787, both inclusive, the number of pots of liquid jaggery or molasses imported in 1781 was 410,313, in 1782 it amounted to 1,108,839, in 1785 the number was 334,000, and in 1786 ..... Nor is the facility with which any extraordinary quantity is supplied to be wondered at, when it is considered that sugar is an article of consumption to every inhabitant of Bengal and the neighbouring provinces, forming part of their diet, from the raw stage of it in the cane to its being made up into sweetmeats and confections; and it is to be met with in every bazar in all the stages of its manufacture. From a thorough conviction of the advantages that will accrue to the Company and the nation by this trade becoming a permanent one, your Committee are induced to solicit the attention of the Court to the great object of prevailing on the Legislature to reduce the duties to the same rates as are paid on the West-India sugars. Your Committee humbly presume to think, that the Right Honourable the Chancellor of his Majesty's Exchequer, who is so distinguished for his knowledge on commercial subjects, will not discountenance a measure that tends to benefit rather than to injure the revenue, as it will be found upon inquiry, that of the sugars hitherto imported by the Company almost the whole has been re-exported. At the same time it is much to be feared, from the great temptation that is afforded in the high drawback (say near 38*s.* per cwt.) much of it may have been smuggled back again, to the great injury of the revenue and of the fair trader. Nor do your Committee conceive that the gentlemen interested in the West-India property can have any well-founded objection to such a measure, as the difference of freight from Bengal, under any reduction that can possibly happen, will always give them every advantage in the market they can reasonably wish for or expect. It is not your Committee's wish that the Company should become the hostile opponents or avowed rivals of the West-India merchants, in any of the markets to which they have been accustomed or are competent to supply; but as, in the present critical situation of affairs, an opening arises for *drawing back to this country a large portion of that foreign trade which it formerly enjoyed, and which, as has been already shewn, the French diverted from hence*, your Committee conceive it would be unpardonable in them to let slip so fair an opportunity of lending their assistance to effect so great a national object. Under the most favourable circumstances France ever saw, it would have required many years to restore the Island of St. Domingo to its former flourishing state: this is therefore the moment for exertions, and if they are properly directed, there is well-grounded reason to expect Bengal may be benefited by an export of this commodity to the amount of more than half a million per annum.

The mere commercial profit that may result to the Company in their mercantile capacity, may not at first perhaps be an object of any essential moment; and considered as lords of the soil, it is in a manner of little consequence to them, whether the sugars of Bengal are carried from thence in British or foreign bottoms: but actuated, as your Committee have ever been, by a desire of rendering Great Britain the grand mart for supplying all Europe with the commodities of the East, they would feel infinite regret in beholding any branch of Indian commerce carried on by the shipping of other nations, which, under proper arrangements, might be rendered instrumental in promoting the trade and navigation of our own.

Having maturely weighed and considered the whole of the above-stated circumstances, your Committee submit it to the Court as their opinion, that in the advices about to be transmitted to Bengal, the Governor-General in Council be instructed to take the needful measures for securing, in addition to the other consignments, as large a quantity of sugar for the returning ships of the season as can be provided; and if (which your Committee think is not very likely to happen,

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happen, considering the number of foreign ships which your Committee are given to understand are in pursuit of the same object) the Governor-General in Council shall be able to collect such a quantity as shall exceed the tonnage on hand, after giving to each ship as much surplus tonnage as she may be in a capacity to receive, that he be empowered to hire any ship or ships that may be offered, for the purpose of conveying home the remainder, at the most reasonable rate of freight that can be obtained.*

Your Committee further submit, that the Governor-General in Council, upon the receipt of such instructions, do forthwith establish an inquiry into the past and present state of the culture of sugar in Bengal and the adjacent provinces, with a view particularly to ascertain what improvements have already been produced from the regulations that have hitherto taken place, and in what degree it is capable of being further extended, under the present or any other suitable encouragements that may be afforded. In the prosecution of this inquiry, your Committee could wish that each Collector should be called upon to furnish the best information he may be able to procure on all or any of the following points.

1. The number of begahs of sugar-cane cultivated in his district, as well in rent-free as in Nizamut lands?
2. The average rent per begah?
3. What increase has taken place therein within a few years past?
4. What increase it is further capable of, under any, and what degree of encouragement?
5. Does the cultivation of the sugar-cane labour under any peculiar disadvantages?
6. If any, are they local or general?
7. What is the quantity of lands now lying waste in the district?
8. Can the riotts be prevailed upon to apply any portion of those lands to the culture of the sugar-cane, and upon what terms and conditions?
9. What is the mode of culture?
10. What is the expense of cultivation per begah?
11. What is the average quantity of canes produced per begah, and their value?
12. What is the rate of profit per annum derived to the riott upon each begah?
13. In what degree is the sugar-cane more or less beneficial to the riott than mulberry, rice, grain, or other vegetable productions?
14. What quantity of sugar is a begah of canes supposed to furnish per annum or crop?
15. How is it prepared?
16. What are the expenses attendant upon its preparation, noting each particular?
17. Are there any established sugar-works in the district, and by whom are they held, natives or Europeans?
18. What is estimated to be the total quantity of sugar produced in the district each year on an average, distinguished in maunds of 80 sicca weight, and of what different qualities?
19. Is the quantity produced within the district sufficient for, or does it exceed the internal consumption?
20. If it falls short, from whence is the deficiency supplied, and to what amount?
21. If it exceeds, what is the surplus, and how is it disposed of?
22. What is the present current rate of its cost, distinguishing (as far as is capable of being described) the several qualities; first in the usual species of rupees and the customary rate of the maund in which it is bought or sold, and afterwards (for the sake of a more ready comparison) reducing such cost to the sicca rupee, and the bazar maund of eighty sicca weight.
23. What reduction is possible to be effected in such rate of cost, should it become an extensive and permanent article of import into Europe?
24. What would be the most eligible mode of making purchases for the Company? By advances to the riott through the Company's public commercial agent? by purchases in the Mofussil through private individuals? at Calcutta only? or in what other mode?

25. To

* This was suggested upon an idea that Parliament would dispense with the laws now in force for one season, in order to meet the public wish on the present exigency.

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25. To what purpose is the dregs (as the molasses, &c.) that arise in the course of the manufacturing process applied? Do they, or do they not, turn to any profitable account?

26. Is the refinement of sugar practised within the district? If so, whether in the European or by what other mode? And what is the rate of expense that attends such refinement?

From the intelligence that shall be afforded in reply to these particulars, your Committee conceive that the Right Honourable the Governor-General in Council will be enabled to furnish the Court with his sentiments at large on this branch of commerce; by which it may be determined, how far the ideas which your Committee have ventured, in the course of this Report, to intrude upon the Court, are well or ill founded, inasmuch as they regard the ability of Bengal to furnish a supply of sugar on the present exigency, the advantages that will accrue thereto by creating a new, extensive, and permanent export demand for the production of its soil and the labour of its manufacturers, and, what is not less interesting, the beneficial consequences that they have conjectured will result to this country in the means it may afford of promoting and increasing its trade, navigation, and revenues.

Your Committee, however, conceive that some time must unavoidably elapse before this inquiry can take place, and that, of course, there is but little reason to conclude that the result can be known in England before the return of the ships now going out, if indeed so soon. Your Committee therefore submit, that in this event, the Governor-General in Council be desired to furnish the Court, by the earliest conveyance of any kind that may occur, so as that it may arrive in England at farthest by the month of January or February 1793, or if no other mode shall offer, by an overland dispatch, with the best information he can possibly obtain of the largest quantity of sugar that may probably be procured for the shipping of an ensuing season; in order that the Court may be guided thereby in taking the needful measures for providing in due time a proper quantity of tonnage for transporting it to England.

By the annexed account it will be seen, that of the imports hitherto made from Bengal the lowest selling rate was 88*s.* 6*d.* the cwt. which has gradually risen to 156*s.* At these rates, under every discouraging circumstance of the superior duties, and reckoned at a rate of freight equal to £31. 16*s.* per ton, the article has yielded no inconsiderable profit. Rating, therefore, the freight at only £15 per ton, and allowing that the duty should be fixed at the rate now paid on West-India sugars, there can be little doubt but, under a larger reduction of price than it is probable sugar would undergo before this commodity shall arrive at market, the prospect of advantage, to say nothing of its utility in other respects, is sufficient to justify your Committee in recommending the adoption of this measure.

(Signed) JOHN SMITH BURGES, JOHN TRAVERS,
WILLIAM ELPHINSTONE, PAUL LE MESURIER,
HUGH INGLIS, JACOB BOSANQUET,
ABRAM ROBARTS, CHARLES MILLS.

East-India House,
29 Feb. 1792.

PROFIT and LOSS on SUGARS imported from BENGAL

	Weight laden.	Amount in Rupees.	Amount in Sterling.	Customs at £37. 16s. 3d. per cent. on Sale Prices.	Freight at £26. 10s. per ton, with 20 per cent. for Kintledge, &c.	Charges of Merchandize 5 per cent.	Total cost, with Duties and Freight.	Sale Weight.	Sale Price.	Average Price per cwt.	Amount.	Profit.	Loss.
	cwt. qrs.		£. s.	£. s.	£. s.	£. s.	£. s.	cwt. qrs.	s. d. s. d.	£. s. d.	£. s.	£. s.	£. s.
Per Houghton, sold 2d March 1791 ...	97 0	1,268	126 16	165 5	152 12	21 17	466 10	95 0	88 6 to 105 0	4 12 0	437 0	—	29 10
Per Prs. Amelia, sold 21st July 1791 ...	1,746 0	19,309	1,931 0	3,302 0	2,776 0	437 0	8,446 0	1,668 0	89 0 to 111 0	5 4 8	8,732 0	286 0	—
Per Rodney, sold 1st September 1791...	1,607 0	17,644	1,764 0	2,935 0	2,554 0	388 0	7,641 0	1,500 0	100 0 to 108 6	5 3 6	7,762 0	121 0	—
Per Hawke & Warren Hastings, sold 4th Jan. 1792.....	803 2	8,423	842 0	1,994 0	1,275 0	269 0	4,380 0	751 2	113 6 to 156 6	7 0 0	5,273 0	893 0	—
	4,252 2		4,663 16	8,396 5	6,757 12	1,115 17	20,933 10	4,014 2			22,204 0	1,300 0	
Tons	212 12 2											Loss, 29 10	
												1,270 10	

Paper annexed to Report of Committee of Warehouses, 29 Feb. 1792.

PAPERS REFERRED TO IN THE REPORT OF THE COMMITTEE OF WAREHOUSES, 29 FEB. 1792.

No. 1.

Papers referred to in Report of Committee of Warehouses, 29 Feb. 1792.

EXTRACT of a Letter to Bengal, in the Commercial Department, dated 8th April 1789.

Par. 57. BY a reference to the price-current of goods in this country herewith sent you, you may perhaps find some articles, the production of Bengal, that might serve partly, if not altogether, the purposes of dunnage; and from which, if we derive no profit, our losses might be less than on the article* in question. Tobacco, Sugar, Wax, and probably other articles, the nature of which we are unacquainted with by the country names, might be worth the trial, on a small scale, by way of experiment. If they yielded only the prime cost, duties, and charges, we should be no sufferers, as freight for the chartered tonnage must be paid, whether goods are laden or not.

No. 2.

EXTRACT from the Bengal Commercial and Shipping Consultations, 14th July 1790.

The Governor-General lays before the Council a letter and the paper accompanying it, which he has received from Mr. Bebb.

" To the Right Hon. Earl Cornwallis, Governor-General, &c. &c.

" My Lord:—In conformity to your lordship's instructions, I have the honour of " submitting to you a list of the articles exported from hence, by sea, to the Coasts of " Coromandel and Malabar; and of offering, with great deference, considerations on " the benefit which may accrue to these provinces and to the East-India Company, by " abolishing the customs levied at Madras and Bombay, and the places subordinate to " them, upon articles imported into them from Bengal.

" I have the honour to be, &c.

" Calcutta, (Signed) " JOHN BEBB."
" July 9, 1790."

Enclosure.

" The benefit a country derives from the exportation of its produce, especially of its " manufactured produce, is so evident, that it is superfluous to expatiate upon it. It is " also evident, that those customs and duties which tend to check exportation, prevent " this benefit: for which reason drawbacks are frequently allowed in Britain on articles " that are subject to the excise duties.†

" In addition to the general obligations due from every Government to its subjects, " the permanent interest Great Britain has in these provinces, renders it incumbent " upon this Government to study the promotion of their prosperity.

" These general reflections, and the heavy establishments at Madras and Bombay, " maintained in part at the former, and almost wholly at the latter place by this Govern- " ment, render the consideration of the exports to those presidencies peculiarly proper, " at a time when the necessity of sending supplies to them is greatly increased by the " war in the South of India.

" It is evident, that the more the produce of Bengal be consumed at those presidencies, " and the countries dependant upon or adjacent to them, the easier can remittances be " made from Bengal.

" If the value of the articles exported from hence to those presidencies equalled the " amount of the supplies the Government have occasion to remit to them, and also the " cost of the returns that may be made by any other mode than Government bills, the " rate of exchange would fall in proportion to the profit of the export. Considerable " profit would reduce the exchange much below par. By par is meant the relative value " of the coins of the countries in question, according to the quantity of pure metal they " contain.

" The accompanying table shews the articles of export from Bengal to Madras and " Bombay, the customs they pay on their importation into Calcutta from the country, " the customs they pay at Madras and Bombay, and the usual and the present sale price " in Calcutta.

" The

* This alludes to redwood. It was the practice to lade a quantity of this commodity on each ship as dunnage, to preserve the piece goods, &c. from damage. The Company had, at this time, large quantities in warehouse which could not be sold but at considerable loss.

† Vide Wealth of Nations, book IV. chap. 4. Consolidation Act, 27 Geo. III.

Papers referred to in Report of Committee of Warehouses, 29 Feb. 1792.

" The material articles are *rice, sugar, raw-silk, and silk piece goods.* The two latter " are said to have been very much lessened since the Marattah war, and any of them, " since that time, to yield but very little profit.

" Exclusive of the customs stated in the table, the lands which produce the materials " for these articles pay a considerable revenue to this Government, especially those " which yield sugar and mulberry. These, in all places, pay double, triple, and in some " even the quintuple of grain-lands.

" Some of the articles of export are peculiar to Bengal; others are carried from other " countries to Madras and Bombay, and rival those of Bengal.

" Among the articles thus rivalled, sugar is the most valuable. It is an article of so " much importance, that the extending the export of it is of sufficient weight in itself " to merit consideration

" The Bombay market is supplied with sugar from China, Manilla, and Batavia, as " well as from Bengal; all that can be purchased at Batavia by the Bombay merchants " is eagerly bought. The vending or procuring a cargo of sugar is even considered as " a sort of favour conferred by the officers of the Dutch Government on the Bombay " merchant. The Marattahs, the great consumers of the sugar imported into Bombay, " are said, however, to give a preference to Bengal sugar, if it be of the same, or nearly " of the same price.

" All goods (rice and provisions excepted) pay six per cent. duty on importation into " Bombay; and every thing, without exception, five per cent. on importation into " Madras. It is probable, the exempting Bengal articles from payment of these duties " will considerably increase the consumption of the whole of them, by rendering the " price easier to the consumer, and will certainly give those articles, the sale of which is " rivalled from other places, an advantage over the importation from those places.

" This advantage will be more than the *customs paid* *, since the consumer must re- " imburse to the retailer not only the increased value of the article by the amount " customs, but also the interest upon this amount, and the necessary profit upon the " greater capital required in consequence of the customs.

" It may be objected by the Governments of Madras and Bombay, that their revenues, " already too scanty for their expenses, will be diminished by this abolition of their " customs, and that the diminution must fall upon this Government.

" The objection is replied to as follows:—

" That the benefit to Bengal, by far the most valuable and extensive of all the Euro- " pean possessions in India, will more than compensate the immediate diminution of the " Company's revenues at Bombay and Madras; that, from the increase of exportation " expected from this measure, the increase of customs collected at Calcutta † will alone, " it is probable, more than equal the diminution of customs at Bombay and Madras; " that the balance of trade being more in favour of Bengal, the probable difference in the " expense of remittance to Madras and Bombay will go far to balance the loss by the " diminution of customs.

" These several benefits do not, from their nature, admit of a conjectural statement " being now formed with sufficient accuracy to be set against the immediate loss of " customs at Madras and Bombay. Some time, perhaps a considerable time, must " elapse, ere they can be felt; but they will not be the less certain or solid. Be all this " as it may, the increase of the prosperity of these provinces, by extending the consump- " tion of their trade and manufactured produce, and the facilitating the means of remit- " tance to Madras and Bombay, are the great ends proposed, and in these views it " appears advisable to adopt the measure.

" To ascertain, however, the extent of the loss, the presidencies of Madras and " Bombay should be desired to state the amount of the customs they have collected " within these last three or five years, upon Bengal goods imported. If, as is hoped, " the importation of Bengal goods should increase, it would not be just to form an " opinion of the loss from an estimate upon the importation when increased.

" The customs levied at Calcutta on the importation of the articles from the country, " have also a relation to the subject in question; but these are properly a subject of " separate consideration.

" It is proposed, that instructions should be sent to Madras and Bombay, directing, " that from and after the ....., no customs shall be levied at those places, or " any settlements or places subordinate to them, upon any articles whatsoever imported " from Bengal; and that customs shall, as heretofore, be levied upon goods imported at " Madras and Bombay from all other places.

" In order to prevent frauds by goods from other countries being landed free of " customs under the name of Bengal goods, it is necessary the merchants should re- " gister

* By this is meant the sums really paid, for it is probable these is some smuggling.

† See what is subsequently said of Calcutta customs.

Papers referred to in Report of Committee of Warehouses, 29 Feb. 1792.

" gister at the Calcutta custom-house, the quantities of goods they may send to Madras " or Bombay or their subordinates, and be furnished with a certificate from the Calcutta " Custom-master, signifying that the goods have been duly shipped, and that, without " producing such certificate, no goods be entitled to exemption of customs.

" As a further check to abuses, each certificate should be limited to a certain reason- " able time for obtaining the exemption from customs. Particular regulations, conform- " able to the spirit of these suggestions, should be drawn up by the Custom-master.

" Certificates may be furnished for articles exported from any of the Eastern rivers, " by the Collectors of the district; who should transmit advice thereof to the Custom- " master in Calcutta.

" The presidencies of Madras and Bombay should be requested to send instructions " to the Chief or Resident of each subordinate under their respective authorities, not to " permit any goods to be landed from any vessel from Bengal, without payment of " customs, unless a certificate should be duly produced; and that the Chief or Resident " be directed to certify, at the back of the certificate, the quantity of goods which have " been landed free of customs.

" The presidencies of Madras and Bombay must be requested to propose any other " regulations which they may think expedient to prevent abuse, and should transmit " regular annual accounts of all Bengal goods which may be imported free of customs."

EXPORT to MADRAS and BOMBAY.

ARTICLES.		Usual Price in Calcutta.				Present Price.		Customs paid at Calcutta on the Importation from the country.	Customs paid on the Importation at Madras.	Customs paid on the Importation at Bombay.
		Rupees.	A.	Rupees.	A.	Rupees.	A.			
Sugar..... per	Md.	From 6	8	to 8	0	7	0	4 per ct.	5 per ct.	6 per ct.
Opium.....	Chest	400	0	650	0	625	0	Do.	Do.	Do.
Long Pepper.....	Mds.	6	0	12	0	7	0	Do.	Do.	Do.
Pepul Mool.....	Do.	4	0	6	0	6	0	Do.	Do.	Do.
Dry Ginger.....	Do.	4	0	5	8	4	8	Do.	Do.	Do.
Turmerick.....	Do.	3	0	4	0	3	8	Do.	Do.	Do.
Cummin Seed.....	Do.	5	12	6	0	6	0	Do.	Do.	Do.
Black Seed.....	Do.	1	10	1	12	1	12	Do.	Do.	Do.
Hemp Rope.....	Do.	6	0	8	0	6	0	Do.	Do.	Do.
Gunnys	100	9	0	10	8	10	8	Do.	Do.	Do.
Saltpetre.....	Md.	3	8	4	8	3	10	Do.	Do.	Do.
Mugga Dooties, Sylhet	Corge	28	0	36	0	None in the Market.		2 per ct.	2 per ct.	2 per ct.
Ditto.....Assam	Do.	20	0	26	0					
Raw Silk, Cossimbuzar	Seer	8	0	8	8	Do. Do.		Do.	Do.	Do.
Ditto...Radnagore..	Do.	8	8	9	0					
Silk Piece Goods.....	Ps.	1	8	12	0	According to sorts.		Do.	Do.	Do.
Cotton Piece Goods....	Do.	3	0	14	0					
Tilmill.....	Do.	3	0	6	0	Do.		Do.	Do.	Do.
Fine Rice.....	Md.	1	6	2	0	1	10	None.	Do.	None.
Cargo Ditto.....	Do.	0	13	1	4	0	14	Do.	Do.	Do.
Wheat.....	Do.	0	12	1	8	0	14	Do.	Do.	None of these go to Bombay.
Peas.....	Do.	0	12	1	0	0	14	Do.	Do.	
Ghee.....	Do.	8	0	12	0	According to sort.		4 per ct.	Do.	

Agreed, That copies of these papers be sent to Bombay with the following letter:—

" To the Honourable Colonel Abercromby, Governor in Council at Bombay.

" Honourable Sir:—We have lately had before us some observations which have been " drawn up by our Export Warehouse-keeper, on the present state of the export trade " from Bengal to the Coasts of Coromandel and Malabar. You will receive a copy of " them enclosed, together with a list of exports to which the paper refers; and we " beg leave to recommend them to your particular consideration, that we may be " favoured with your sentiments on a proposed measure highly interesting to the com- " merce of this country, and holding forth considerable advantage to the Company, in " a reduction of the rates at which remittances are now made from hence to the west " of India. The measure we allude to is the abolition of all customs and duties what- " soever on articles imported by sea from Bengal or the Coast of Malabar.

" We are aware that a subject of this importance, whether considered in a political " or commercial view of it, and involving in it a reference to accounts for years past, " will require time for discussion; and although we are solicitous to be favoured with " your

Papers referred to in Report of Committee of Warehouses, 29 Feb. 1792.

" your opinions at large upon the whole of it, we are particularly so to receive them " immediately upon that part which concerns the article of sugars manufactured in " these provinces ; for we have reason to believe, that the encouragement recommended " upon the import of this article at your presidency from Bengal, will be extremely bene- " ficial to the trade of the country, and encouraging to the industry of its inhabitants.

" If your opinion should favour the idea of abolishing the import duties on Bengal " sugar, we would recommend an advertisement to be published at Bombay, declaring " your resolution to abolish the customs upon it after a certain time, on the production " of such a certificate as is proposed in the plan from the Custom-master of Calcutta, " to shew that it has been manufactured in these provinces. But if you should enter- " tain doubts of the propriety of the measure, you will state them to us as early as " possible, that we may pass our final decision ; and if we should see reason to expect " that any material advantage would arise from it, we shall afterwards consider whether " it might not be advisable, as at present we think it would, to abolish the duty upon " the import of this article at Calcutta from the different parts of the country under " our authority.

" We have the honour to be, &c. &c.

(Signed) " Cornwallis.
" Charles Stuart.
" Peter Speke."

" Fort William,
" 14th July, 1790."

Ordered, That the following letter be written to the Secretary at Fort Saint George :—

" To C. R. White, Esq. Secretary at Fort Saint George.

" Sir :—I have orders to transmit to you a copy of a letter which has been written " to the Governor in Council at Bombay, enclosing some observations drawn up by the " Export Warehouse-keeper at this presidency, on the present state of the export trade " from Bengal to the Coasts of Coromandel and Malabar, and enclosing a list of exports " to which the papers refer. You are desired to submit the same to the Governor in " Council at Fort Saint George, whose opinion is particularly requested on the proposed " measure of abolishing all customs and duties whatsoever on articles imported by sea, " from Bengal or the Coast of Coromandel.

" The Governor-General in Council understands, that Bengal sugars are not, at " present, imported in considerable quantities on that coast ; but as an abolition of the " duties is likely to be productive of an increase of the demand for the articles from " this country, he wishes to receive the sentiments of the Madras Board upon this part " of the general subject without delay.

" Fort William, 14th July, 1790." " I am, &c."

No. 3.

Extract Bombay Revenue Consultations, 16th August 1790.

Read the following letter and paper annexed, from the Governor-General in Council, received this morning, which are ordered to lie over for consideration, until the Members shall have deliberated at leisure, on the subject upon which it treats.

Here follow Mr. Bebb's letter and enclosure.

Extract Bombay Revenue Consultations, 20th August 1790.

Having reperused the dispatches from the Governor-General in Council received the 16th instant, it is agreed, previous to our offering our sentiments to his lordship on the points referred to our consideration, to furnish the gentlemen at Surat, and the Custom-master, with copies of the papers, and to desire they will take the opinions of the best informed persons on the subject, and lay them before us.

Resolved, That the late advices from Surat lie over until we form a judgment on the points to which the preceding Resolutions allude, as there is an intimate connection between them.

Signed a letter to the Chief and Council at Surat :—

" To John Griffith, Esq. Chief, &c. Council at Surat.

" Gentlemen :—We enclose for your notice, copies of sundry papers received the " other day from the Governor-General in Council, and desire you will give the sub- " ject on which they treat the most attentive consideration, and lay before us your " sentiments at large upon it. We shall postpone the consideration of your dispatches " of the 11th in this department, until we receive your communication on the points " now referred to you, with which the former are intimately connected.

" Bombay Castle, Aug. 21, 1790." " We remain, &c."

FIRST APPENDIX TO

Papers referred to in Report of Committee of Warehouses, 29 Feb. 1792.

EXTRACT Bombay Revenue Consultations, 10th Sept. 1790.

Read the following letter from the Bombay and Mahim Custom-masters :—

" To the Honourable Robert Abercromby, &c. Governor in Council.

" Honourable Sir :—We have been favoured with your commands of the 25th ult. " inclosing copies of a letter and papers referred to therein from the Supreme Govern- " ment of Bengal. As the subject on which you have been pleased to require our " opinions is of such importance as to demand our utmost attention, and on its investi- " gation will oblige us to seek for the completest information (a branch of which " includes a reference to the Custom-house books of former years), some time must " unavoidably elapse before we can communicate our sentiments on every part of it. " We, however, beg leave, Sir, to submit to you our opinion on the article of sugar " manufactured in Bengal; which opinion is strengthened by the acquiescence of the " principal merchants of this place, whom we consulted on the occasion, that the " abolition of the import duty at this place on that commodity must necessarily occa- " sion an increased consumption; and if the intention of the Supreme Government " should be carried into execution, and the inland duty at Calcutta likewise be remitted, " the merchants will be enabled to bring the Bengal sugars to the markets on this side " of India with such advantages, as not only to ensure them a decided preference, " but in a short time entirely to exclude therefrom the sugars of Batavia and China. " The benefits resulting to the Bengal provinces from the increased cultivation of an " article so highly productive to their revenue, assisting by its exportation to lower the " rates of remittances, and affording employment to the shipping of India in a profitable " branch of commerce, by a short navigation between our own settlements instead of " a circuitous route to foreign ports, will, we apprehend, amply compensate for the " diminution of revenue by the loss of customs, which, supposing the Bengal sugars " to exclude their rival manufactures, will be six per cent. on nearly the whole import " of sugar here, amounting, on an average of five years, to 26,000 rupees per annum, " exclusive of the amount of customs collected on this article at Surat. We do not, " however, suppose that the loss of customs will be perpetual; but are of opinion, that " after the Bengal sugars shall have acquired that ascendancy over their rivals, as to " drive them from the markets, a moderate duty may be collected, either on its " exportation from Calcutta or importation here, without a risk of the trade's reverting " to its former channels. On the whole, we conceive the measure of abolishing all " duties on sugar manufactured in Bengal so replete with advantages, that the amount " of customs which will be lost in consequence cannot be put in competition with " them; but, at any rate, we presume, the experiment may be made without a danger " of any bad consequences resulting from it.

" We are, &c.

" Bombay,
13th Sept. 1790.

" WM. LEWIS.
" J. STEVENS."

We perfectly coincide in opinion with the Revenue Officers submitted in the above, that the abolition of the import duties on Bengal sugars would be attended with considerable public advantages. It is therefore agreed, to adopt the measure recommended, allowing until the 1st of September next for the owners of Batavia and China ships to dispose of their cargoes.

Read the following letter from the Chief and Council at Surat, with an enclosure, received the 6th instant :—

" To the Honourable Robert Abercromby, &c., Governor in Council.

" Honourable Sir :—Having attentively considered the subject of the several papers " received from the Governor-General in Council, and referred to us in your letter of " the 21st ult., we now enclose copy of a minute the Chief yesterday laid before us, " which having been unanimously concurred in, conveys our sentiments on the plan " proposed.

" We have the honour, &c.

" JOHN GRIFFITH.
" J. WARDEN.
" J. SPENCER.
" L. CORKRAN."

" Surat Revenue Department,
1st Sept. 1790.

Copy of the Chief's Minute in Council.

" In obedience to the orders of our Superiors of the 21st instant, the Chief lays " before the Board his sentiments on the subject referred from Bengal, which being so " intimately connected with his Minute of 5th July, we will first quote such parts as " immediately apply to it, and the Surat Custom-master's Report in corroboration of " the positions laid down in that Minute.

" The Chief is firmly of opinion, that if the traders in Bengal raw-silk and piece " goods are made to pay the full customs of six per cent. it will amount to a " prohibition.

" Before

Papers referred to in Report of Committee of Warehouses, 29 Feb. 1792.

" Before the period of 1765, when Lord Clive obtained from the Mogul Shah Allum " a grant of the Dewannee, or administration of the revenues of Bengal, Bahar, and " Orissa, great quantities of Bengal goods, particularly raw-silk, were imported at " Bombay and Surat, on which the merchants acquired such a profit, that they were " not only able to pay the duties of six per cent., but were glad to take Company's " bills on Bengal, at the exchange of 116 Bombay or Surat rupees for 100 mixed " Siccas. But after the Company began to remit the revenues of Bengal, Bahar, and " Orissa to England, in raw-silk and piece goods, the prices of these articles rose so " high, that the importation of them to the western ports of India gradually decreased; " and it will appear on a reference to the Custom-house books at Bombay and Surat, that " little or no duties have been collected on the above articles for several years past; " and it is worthy of remark, that, in proportion to the decrease of the importation of " them, the exchange on Bengal bills rose against the Company. The Chief finds that " the natives here called Shroffs, were originally dealers in raw-silk and piece goods; " and as a ship of small burthen then could bring in these rich articles to the value of " two or three lacs, and carry back only a tenth part of the proceeds in cotton (the only " article of return), the merchants had no alternative left them of remitting the over- " plus but in bills of exchange. This induced them to take up the profession of Shroffs, " being so intimately connected with that of silk-merchants.

" The Chief therefore proposes to recommend to the consideration of our Superiors, " the expediency of collecting only three per cent. duties on Bengal raw-silk and piece " goods imported at Bombay and Surat, to be charged agreeably to the valuation " specified in the Bengal rowannahs or Custom-house passes, on which the export " duties are levied at Calcutta. This reduction, the Chief is persuaded, will tend to " increase the Company's customs, as well as enable the Shroffs to supply Government " with money on more favourable terms than they can at present; an object at all times " of great importance to the Company, but more particularly so in time of war."

The Surat Custom-master's report alluded to above.

" Abstract of Bengal Raw-Silk and Piece Goods imported at the Latty, from the year 1765.

Years.	No. of Bales.	Quality.	Valuation.			Customs.		
			Rupees	qr.	r.	Rupees.	qr.	r.
1764-5	194	Raw-Silk and Piece Goods.....	257,650	1	74	15,459	—	8
1765-6	67	Ditto — ditto.....	76,640	2	44	4,598	1	74
1766-7	70	Ditto — ditto.....	124,712	2	24	7,842	3	1
1767-8	156	Ditto — ditto.....	166,237	2	1	10,016	1	—
1768-9	204	Ditto — ditto.....	310,177	—	37	18,610	2	50
1769-70	176	Ditto — ditto.....	253,790	1	76	15,227	1	68
1770-1	38	Ditto — ditto.....	42,735	2	58	2,564	—	43
1771-2	105	Ditto — ditto.....	63,161	1	50	3,789	2	72
1772-3	27	Ditto — ditto.....	34,160	—	50	2,046	—	2
1773-4	29	Ditto — ditto.....	16,799	3	20	1,007	3	95
1774-5	50	Ditto — ditto.....	27,492	—	—	1,637	2	8
1775-6	86	Ditto — ditto.....	62,243	1	40	3,734	2	40
1776-7	53	Ditto — ditto.....	55,368	2	93	3,322	—	49
1777-8	30	Ditto — ditto.....	27,741	—	—	1,664	1	64
1778-9	9	Ditto — ditto.....	5,245	—	—	314	2	80
1779-80	36	Ditto — ditto.....	31,000	—	—	1,860	—	—
1780-1	9	Ditto — ditto.....	9,531	2	—	571	3	56
1781-2	36	Ditto — ditto.....	35,584	2	—	2,135	—	28
	28	Ditto — ditto, 3 per cent.....	37,295	—	—	1,118	3	20
1782-3	77	Ditto — ditto, ditto.....	92,806	3	—	2,784	—	81
1783-4	24	Ditto — ditto, ditto.....	32,770	—	—	983	—	40
1785-6	21	Ditto — ditto.....	14,466	—	—	867	3	84
	27	Ditto — ditto, 3 per cent.....	20,573	3	50	617	—	26
1786-7	5	Ditto — ditto.....	3,693	—	—	221	2	32
	1	Ditto — ditto, 3 per cent.....	2,233	—	—	66	3	96
1788-9	5	Ditto — ditto.....	3,120	—	—	187	—	80

(Signed) " J. Spencer, Latty-master.

" By the above extracts it will appear, that the Chief has before attentively considered " the subject, the difference between his proposal and that from the Bengal Export " Warehouse-keeper being the reduction of the customs instead of a total abolition; but, " as the Warehouse-keeper very justly observes, the more the produce of Bengal be " consumed here, the easier can remittances be made from Bengal. The Chief gives a " decided preference in favour of an abolition of all customs and duties whatsoever on " articles imported by sea from Bengal. On a reference to the Custom-master's Report " above, it is evident little or nothing can be lost by the experiment; but even admitting " that it considerably lessened our receipt of customs, it would be no object compared " with the reducing the exchange on remittances; besides, all partial and local con- " siderations ought ever to give way to the general system.

" The

Papers referred to in Report of Committee of Warehouses, 29 Feb. 1792.

" The encouragement of the importation of Bengal sugars at Surat cannot fail to be " attended with considerable benefit to the Company, by enabling us to undersell our " rivals the Dutch, which will oblige them to reduce their investments of piece goods " for Europe. As it will be very difficult to prevent frauds in the importation of this " article, the Chief begs, in addition to the regulations proposed by the Bengal Ware- " house-keeper, to suggest the expediency of obliging the commanders of ships from " Bengal to give in a manifest of their cargoes upon oath.

" The Chief humbly submits to the consideration of his Superiors, the justice and " propriety of allowing a proper time for the owners of China ships to dispose of their " sugars that may be imported from China the ensuing season, before the customs on " Bengal sugars be taken off.

" Upon a mature consideration of the subject, the Chief begs to offer it as his opinion, " that the abolition of all customs and duties whatsoever on articles imported by sea " from Bengal, will increase the manufactures, give employment to the shipping, and " turn the exchange on remittances to this presidency in favour of the Company.

" Surat, 31st Aug. 1790. (Signed) " JOHN GRIFFITH."

Resolved, That the Revenue subject, submitted in the Surat advices of the 1st instant, lie over until we receive the sentiments of the Bombay and Mahim Custom-masters on the other points of the Supreme Government's reference to us; and, in the mean-time, the Chief and Council will be instructed to let the duties now exacted remain at present in force.

Signed letters to the Governor General in Council, and Chief and Council at Surat, as follows:—

" To Earl Cornwallis, K. G., Governor General, &c. &c. &c.

" My Lord:—We have been honoured with your Lordship's letter of the 14th July, " and have given that attentive consideration to its contents which the subject of it " exacts. Having consulted with the Company's Officers of Revenue here and at Surat, " and taken the opinions of merchants most conversant on the subject, we have the " strongest reason to expect, that very essential benefits will result from the measure " suggested to your Lordship of taking off the import duties on sugars manufactured " in the Bengal provinces, and shall accordingly adopt it; allowing, however, agreeably " to your Lordship's recommendation, a reasonable time (until the 1st September " next) for the merchants to dispose of the China or Batavia cargoes they may have " engaged for.

" The other part of your Lordship's letter shall bespeak our attention, discussion, " and reply, as soon as we are possessed of materials whereon to form our judgment.

" We have the honour to be,

" Bombay Castle, (Signed) " R. ABERCROMBY,
" 15th Sept. 1790." " &c. Council."

" To John Griffith, Esq., Chief, &c. Surat.

" Gentlemen:—We think proper to suspend, for the present, our decision on the " points submitted to us in your advices of the 11th ult. and 1st inst., except on that " relative to the abolition of the import duties on sugars manufactured in the Bengal " Provinces. Conceiving that the measure will be attended with very essential " advantages, we have resolved to adopt it, as you will observe by the inclosed advertise- " ment, which you will be pleased to make public.

" We remain, &c.

" Bombay Castle, (Signed) " R. ABERCROMBY,
" 15th Sept. 1790." " &c. Council."

EXTRACT Bombay Revenue Consultations, 2d Nov. 1790.

Read the following letter from the Custom-master, with a statement enclosed, copy of which must be sent to Bengal for the information of the Governor-General in Council.

" To William Page, Esq. Secretary.

" Sir:—Having prepared the statement of duties collected on sugars, &c. required " by the Honourable the Governor-General, I enclose the same to you, that it may " be transmitted to his Lordship. As not any duties are collected here on sugars, rum, " or arrack when exported, this statement only contains what is collected on the im- " portation.

" I remain, &c.

" Bombay Custom House, (Signed) " WM. LEWIS,
" 1st Nov. 1790." " Custom-master."

" BOMBAY

Papers referred to in Report of Committee of Warehouses, 29 Feb. 1792.

" Bombay.—A Statement of the Average Receipts for one year, of the Duties collected " in five years on Sugars of whatsoever kind; also on Rum and Arrack, distinguish- " ing those of Bengal from the same article imported from other places.

	Rs.	qr.	r.	Rs.	qr.	r.
" Sugar.—Bengal	2,686	3	4			
China	5,746	2	16			
Batavia	7,996	1	20			
Bassur	983	3	16			
Mauritius	506	2	8			
Lisbon	80	0	16			
Marseilles	64	2	96			
				18,064	2	76
" Rum.—Bengal	83	0	64			
Europe	166	2	0			
Brazil	7	2	0			
French	104	0	16			
				361	0	80
" Arrack.—Bengal	60	0	0			
Batavia	667	1	76			
Goa	211	3	92			
Columba	74	0	16			
				1,013	1	84
" Total amount for one year.....Rs.				19,439	1	40

" Bombay Custom-house,
" 1st Nov. 1790."

(Signed) " Wm. Lewis,
" Custom-master."

No. 4.

EXTRACT of Bengal Commercial Consultations, the 17th November 1790.

Extract of Letter from the President and Council at Fort Saint George to the Governor-General, dated 27th Oct. 1790.

We have the honour to transmit you extracts of letters from the Board of Trade here, under date 27th ultimo and 24th instant, with copies of several accounts, stating the quantity of sugar, sugar-candy, and jaggery, imported at Madras from Bengal and other places for the last five years, with the rate and amount of duties collected on those articles.

It appearing that the Board of Trade were desired, on receipt of your Secretary's letter of July, to furnish, with as little delay as possible, the general accounts of duties collected on imports from Bengal, we have judged it necessary to express our surprise to them on the occasion, and to desire they will explain to us the causes of such apparent neglect.

On being furnished with those statements, we shall have the honour of communicating them to your Lordship, with our opinion on the subject.

In the mean time, your Lordship will perceive that the duty collected on the article of sugar is but inconsiderable; and, in the present state of the trade, it could be attended with no material diminution of revenue, if all the customs were to be abolished on the imports from Bengal, except on the article of rice.

Extract of a Letter from the Board of Trade, dated 27th September 1790.

We have the honour to acknowledge the receipt of your Secretary's letter of the 14th ult., transmitting copy of letter from the Secretary at Bengal of the 14th July, with copies of the papers that accompanied it. We immediately issued the necessary orders to the subordinates to furnish us with a particular account of articles imported at each place respectively for the last five years, the produce and manufacture of Bengal, and the duties collected thereon; and we directed the Sea-Customer to prepare a similar account of the imports at Madras; but as the Supreme Government had expressed a desire to have the most early information respecting the imports of sugars, and the amount of duties accruing from them, we instructed the Sea-Customer to furnish it as soon as possible, stating also the quantities of sugar-candy and jaggery imported for the same period.

These accounts we have now the honour of laying before you, with an abstract of the whole, by which it appears the duties collected on the articles of moist sugar, sugar-candy, and jaggery, for the last five years, amount to the sum of Pagodas 2977 4 46.

The proposed abolition of the duties upon Bengal sugar imported at Madras will be attended with a very inconsiderable loss to the revenue; but how far the views of the Supreme Government of increasing the exportation from Calcutta may be promoted by it, we cannot take upon ourselves to determine.

Papers referred to in Report of Committee of Warehouses, 29 Feb. 1792.

Our duty, at the same time, leads us to submit to your consideration the expediency of abolishing the duties on sugars and jaggery the produce of our subordinates on the coast; at some of them the manufacture is much improved, and, we humbly conceive, merits public encouragement.

As soon as we are furnished with the account of imports of other articles from Bengal at Madras and the subordinates, we shall do ourselves the honour of laying it before you, with such observations as may occur to us.

(Signed) Rob. Clerk,
Deputy Secretary.

Extract of a Letter from the Board of Trade, dated 24th October 1790.

We have had the honour to acknowledge the receipt of your secretary's letters of the 2d and 9th ult. and 1st inst. We immediately desired the Sea-Customer to lose no time in furnishing us with the necessary information of the duties collected within the last five years on Bengal rum and arrack, and at the same time requesting him to be as expeditious as possible in forwarding to us the general account of duties collected at this place, on the articles stated in Mr. Secretary White's letter of the 14th August last.

Fort Saint George.—Account of the Quantity of Sugar imported at this Port, from Ports and Places on the Coast, Bengal, Manilla, China, and Batavia, from the Year 1785 to 1789.

The Port where shipped.	Quantity.			Valuation.		Duty at what Rate.	The Amount of the Duty levied upon.		
	Candy.	M.	lb.	Pags.	Fs.	Pags.	Pags.	Fs.	C.
1785. Bengal	5	0	0	40	0	5	2	0	0
Bombay	327	17	7	4,484	25	—	224	8	36
Mocha	2	10	0	29	26	—	1	17	40
	335	7	7	4,554	15	—	227	25	76
1786. Bengal	43	8	21	632	23	5	31	22	60
Manilla	12	0	0	156	0	—	7	28	64
China	200	0	0	2,000	0	—	100	0	0
Batavia	40	5	0	483	0	—	24	5	32
Mallay	10	3	7	73	6	—	3	23	56
Ganjam	0	13	7	6	23	—	0	11	76
Nagore	2	8	22	34	8	—	1	25	48
Sumaporam	1	2	0	13	7	—	0	23	60
Pondicherry	13	14	20	291	0	—	14	19	64
Porto Nova	1	14	2	23	31	—	1	6	76
Pegu	18	18	7	189	5	—	9	16	36
	344	8	11	3,902	31	—	195	5	12
1787. Bengal	246	12	21	3,528	21	—	176	15	36
Batavia	161	1	11	2,410	25	—	120	19	20
Bencoolen	3	12	4	46	32	—	2	12	32
Bombay	5	2	3	92	5	—	4	21	68
Anjengo	208	1	18	2,481	28	—	124	3	16
Coringa	1	18	10	13	16	—	0	24	16
Mocha	1	0	0	17	0	—	0	30	48
Sumaporam	7	1	11	81	11	—	4	2	28
Monsoorcotta	0	5	22	3	20	—	0	6	32
Pondy	2	13	23	32	13	—	1	22	20
Pulicat	302	5	5	4,064	20	—	203	8	16
	939	15	3	12,772	11	—	638	21	22
1788. Bengal	238	8	14	2,964	15	5	148	7	76
Bombay	5	2	3	92	5	—	4	21	68
Ganjam	0	9	2	4	27	—	0	8	44
Pandarty	15	6	9	214	16	—	10	26	0
	259	6	3	3,275	27	—	163	28	28
1789. Bengal	272	19	0	2,855	29	5	142	28	36
Mocha	3	0	0	27	0	—	1	12	48
Manilla	69	4	15	900	0	—	45	0	0
Sumaporam	1	0	0	17	0	—	0	30	48
Pulicat	35	12	3	356	3	—	17	28	76
	381	15	18	4,155	32	—	207	28	48

Papers referred to in Report of Committee of Warehouses 29 Feb. 1792.

FORT SAINT GEORGE.—Account of the Quantity of Sugar imported, &c.—*continued.*

TOTAL.	Quantity.			Valuation.		Duty at what Rate.	The Amount of the Duty levied upon.		
	Candy.	M.	lb.	Pags.	Fs.	Pags.	Pags.	Fs.	C.
1785	335	7	7	4,554	15	—	227	25	76
1786	344	8	11	3,902	31	—	195	5	12
1787	939	15	3	12,772	11	—	638	22	12
1788	259	6	3	3,275	27	—	163	28	28
1789	381	15	18	4,155	32	—	207	28	48
	2,260	12	17	28,661	8	—	1,433	2	16

(Signed) J. CALL, Sea Custom-master.

FORT SAINT GEORGE.—Account of the Quantity of Sugar-candy imported at this Port, from Ports and Places on this Coast, Bengal, Manilla, China, and Batavia, from the year 1785 to 1789.

The Port where shipped.	Quantity.			Valuation.		Duty at what Rate.	The Amount of the Duty levied upon.		
	Candy.	M.	lb.	Pags.	Fs.	Pags.	Pags.	Fs.	C.
1785. China	85	10	0	1,828	14	5	91	15	8
Goa	1	3	3	18	0	—	0	32	32
	86	13	3	1,846	14	—	92	11	40
1786. Bengal	47	0	0	1,195	0	5	59	27	0
China	60	9	0	1,156	21	—	78	11	68
Batavia	13	5	0	265	0	—	13	9	0
	120	14	0	3,026	21	—	151	11	58
1787. Bengal	100	10	0	2,440	22	5	122	1	8
China	186	2	0	5,143	27	—	257	6	60
Bencoolen	4	0	0	100	0	—	5	0	0
Columbo	15	13	7	360	25	—	18	1	20
	306	3	7	8,045	2	—	402	9	8
1788. Bengal	15	0	0	375	0	5	18	27	0
China	53	10	0	1,450	0	—	72	18	0
Batavia	53	4	0	985	27	2½	49	10	28
Negapatam	6	10	0	180	0	—	9	0	0
	128	4	0	2,990	27	—	149	19	28
1789. Bengal	3	0	0	80	0	5	4	0	0
China	206	5	0	5,769	0	—	288	16	16
Batavia	110	16	15	2,031	4	—	101	20	0
Tranquebar	7	6	18	176	2	—	8	28	72
Nagore	28	17	16	487	23	—	24	13	60
Pulicat	46	16	9	936	13	—	46	29	36
	403	2	8	9,480	6	—	474	0	24
TOTAL.									
1785	86	13	3	1,846	14	5	92	11	40
1786	120	14	0	3,026	21	—	151	11	68
1787	306	3	7	8,045	2	—	402	9	8
1788	128	4	0	2,990	27	—	149	19	28
1789	403	2	8	9,480	6	—	474	0	24
	1,044	16	18	25,388	34	—	1,269	16	8

A true Copy. (Signed) THOS. CHASE, Secretary.

Papers referred to in Report of Committee of Warehouses, 29 Feb. 1792.

ACCOUNT of the Quantity of Jaggery imported at Madras from different Ports and Places, from the Year 1785 to 1789.

The Port where shipped.	Quantity.			Valuation.		Duty at what Rate.	The Amount of the Duty levied upon.		
	Candy.	M.	lb.	Pags.	Fs.	Pags.	Pags.	Fs.	C.
1785. Coringa	3	14	0	25	32	5	1	10	84
Barvah	1	0	0	6	0	—	0	10	64
Kistnapatam	2	12	23	23	30	—	1	6	72
Rameapatam	2	3	3	25	32	—	1	10	48
Advampatam	8	10	0	61	7	—	3	2	12
Poody Madakah	2	14	12	19	2	—	0	34	24
	20	14	13	160	31	—	8	3	28
1786. Barvah	3	0	0	12	0	5	0	21	48
Pandarty	2	3	17	13	4	—	0	23	48
Checkercottah	7	0	0	42	0	—	2	3	48
Pondicherry	18	2	5	108	26	—	5	15	56
Jagannadapoor	46	17	1	328	0	—	1	14	32
	77	2	23	503	30	—	25	6	72
1787. Barvah	4	16	4	25	2	5	1	9	8
Ganjam	46	13	11	2,693	5	—	134	23	52
Pentacottah	0	17	18	5	11	—	0	9	44
Soornapoor	135	7	18	750	7	—	37	18	28
Monsoorcottah	8	2	17	38	33	—	1	34	4
Pondicherry	1	5	10	5	19	—	0	9	76
Bengal	0	17	4	4	11	—	0	7	60
Poondy	3	4	16	16	6	—	0	29	8
Colingapatam	4	2	10	20	22	—	1	1	8
Coringa	12	16	15	64	5	—	3	7	36
	635	3	23	2,623	13	—	181	6	4
1788. Colingapatam	16	10	14	58	35	5	2	34	12
Soornapoor	14	6	0	61	17	—	3	2	52
Monsoorcottah	5	9	5	23	27	—	1	6	60
Ganjam	89	9	4	463	23	—	23	6	44
Coringa	3	0	13	13	23	—	0	24	44
Barvah	13	12	6	59	5	—	2	34	36
Poondy	2	6	6	9	9	—	0	16	52
Wootcoor	1	2	10	5	22	—	0	10	8
Bengal	24	12	7	137	23	—	6	21	60
Bimlepatam	8	6	2	53	35	—	2	25	12
	178	14	57	887	3	—	44	12	60
1789. Bengal	31	11	22	233	23	5	11	24	44
Soornapoor	2	1	18	10	15	—	0	11	60
Kistnapatam	26	5	20	65	27	—	3	10	28
Poondy	2	3	8	11	33	—	0	20	36
	62	2	18	321	6	—	16	2	8
TOTAL.									
1785	20	14	13	161	31	—	8	3	28
1786	77	2	23	503	30	—	25	6	72
1787	635	3	23	3,623	13	—	181	6	4
1788	178	14	17	887	3	—	44	12	60
1789	62	2	18	321	6	—	16	2	8
	973	18	19	5,497	11	—	274	31	12

A true Copy.

THOS. CHASE, Secretary.
ROBT. CLERK, Deputy Secretary.

ABSTRACT

Papers referred to in Report of Committee of Warehouses, 29 Feb. 1792.

ABSTRACT of the Amount of the Duties collected on Sugar, Sugar-Candy, and Jaggery imported at FORT ST. GEORGE, from BENGAL, MANILLA, &c. from the Year 1785 to 1789.

	Quantity.	Valuation.	Duty, at what Rate.	The Amount of the Duty levied upon.
	Candy. Mds. lbs.	Pags. F.	Pags.	Pags. F. C.
Amount of Sugar imported at Fort St. George, from Bengal. Manilla, &c.	2,260 12 17	28,661 8	At 5 per Ct.	1,432 2 16
Do. of Sugar Candy	1,044 16 18	25,388 34	Do.	1,269 16 18
Do. of Jaggery	973 18 19	5,497 11	Do.	274 31 12
	4,279 8 4	59,547 8	—	2,977 4 46

(Signed) THO. CHASE, Secretary,
A true Copy,
(Signed) ROBERT CLERK, Deputy Secretary.

EXTRACT Bengal Public Consultations, 17th December 1790.

To John White, Esq. Sub-Secretary.

SIR:—In compliance with your requisition of the 8th September 1790, I herewith transmit an account, exhibiting the particulars and medium of the duties collected during the last five years upon sugar and jaggery exported from Benares to the Company's Provinces, such medium being per annum Rs. 11,645 15 15.

In this list I have admitted of the insertion of two preparations of conserve of roses, because sugar enters materially into their composition. But should this not appear a sufficient reason, their having a place cannot at all events prove material, as the five years medium of that part of the duty will not amount to five rupees.

I remain, &c.

Benares, 21st Oct. 1790.

(Signed) JONATHAN DUNCAN, Resident.

BENARES.—Translation of Account of Sugar, Jaggery, and other Species of Sugar, produced in the District of BENARES, and exported to Bengal and Behar in different Years, as follows, viz.

Names of the Articles.	Weight.	Price.	Duty.
	Mds. S. C.	R. C. P.	R. A. G.
In 1192 Fussily.			
Sugars, &c. viz. Sugar (Shukur) or Khand	596 10 0	2,138 0 0	106 14 0
Chinny, or White Sugar	4,556 7 8	31,800 2 0	1,590 0 5
Joosee, or Molasses	557 30 0	830 2 0	41 8 10
Jaggery (Khund seah) or Bellee, or Goor	790 10 0	2,573 9 0	78 10 15
Sugar-candy (Misree)	0 15 0	4 8 0	0 3 10
Ditto Turry, called in Hindostan (Rual)	—	—	—
Chutah, or a Species of Molasses	—	—	—
Goolkund, Conserve of Roses, being a Composition of Sugar and Roses	—	—	—
Goolchukeree, a Drink made out of the same Materials	—	—	—
Ollah, Sugar Balls made of Chinny or White Sugar	—	—	—
Total of Sugar, &c.	6,406 32 8	16,346 5 3	1,817 5 0
In 1193 Fussily.			
Sugar, &c. viz. Sugar (Shukur) or Khand	916 35 0	3,208 14 0	160 7 5
Chinny, or White Sugar	11,297 1 8	78,953 4 0	3,947 10 10
Joosee, or Molasses	—	—	—
Jaggery (Khund seah) or Bellee, or Goor	1,015 17 8	2,687 13 9	134 6 5
Sugar-candy (Misree)	8 30 0	130 0 0	6 8 0
Ditto Turry, called in Hindostan (Rual)	2 0 0	5 0 0	0 4 0
Chootah, or a Species of Molasses	3,213 17 8	5,409 3 0	270 7 10
Goolkund, Conserve of Roses, being a Composition of Sugar and Roses	—	—	—
Goolchukeree, a Drink made out of the same Materials	—	—	—
Ollah, Sugar Balls made of Chinny or White Sugar	—	—	—
Total of Sugar, &c.	16,434 34 8	90,394 2 9	At 5 per Ct. 4,519 11 10

Papers referred to in Report of Committee of Warehouses, 29 Feb. 1792.

BENARES.—Translation of Account of Sugar, &c.—*continued.*

Names of the Articles.	Weight.			Price.			Duty.		
	Mds.	S.	C.	Rs.	A.	P.	Rs.	A.	G.
In 1194 Fussily.									
Sugar, &c. viz. Sugar (Shukur or Khand)...	3,143	17	8	10,087	8	0	504	8	10
Chinny, or White Sugar	36,442	30	0	255,141	6	0	12,758	9	5
Joosee, or Molasses.....	—			—			—		
Jaggery (Kund seah) or Bellee, or Goor.....	3,161	10	0	7,112	12	0	355	11	5
Sugar-candy (Misree).....	8	0	0	160	0	0	8	0	0
Ditto Turry; called in Hindostan, Rual.....	—			—			—		
Choottah (a Species of Molasses)	5,012	30	0	7,574	10	0	378	11	5
Goolkund (Conserve of Roses) being a Composition of Sugar and Roses	2	14	6	23	10	0	1	3	0
Goolchukeree (a Drink made out of the same Materials).....	1	0	0	10	0	0	0	8	0
Ollah (Sugar Balls, made of Chinny or White Sugar).....	0	30	0	7	8	0	0	6	0
Total of Sugar, &c.....	47,772	12	0	280,117	6	0	14,007	9	5
In 1195 Fussily.									
Sugar, &c. viz. Sugar (Shukur or Khand)...	4,692	26	12	13,319	12	3	666	0	17
Chinny, or White Sugar	55,024	20	8	342,139	13	3	17,107	2	7
Joosee, or Molasses.....	—			—			—		
Jaggery (Kund seah) or Bellee, or Goor ...	12,887	12	8	23,398	4	6	1,169	15	7
Sugar-candy (Misree).....	27	26	4	496	8	0	24	13	5
Ditto Turry, called in Hindostan, Rual.....	47	7	8	100	8	0	5	0	5
Chootah (a Species of Molasses)	15,718	39	14	12,733	2	3	636	11	10
Goolkund (Conserve of Roses) being a Composition of Sugar and Roses	13	16	0	136	7	0	6	13	5
Goolchukeree (a Drink made out of the same Materials).....	3	0	0	30	0	0	1	8	0
Ollah (Sugar Balls, made of Chinny or White Sugar).....	1	34	0	19	12	0	0	15	15
Total of Sugar, &c.....	86,416	23	6	392,374	3	3	19,619	0	12
In 1196 Fussily.									
Sugar, &c. viz. Sugar (Shukur or Khand)...	3,493	25	4	10,863	14	9	543	1	15
Chinny, or White Sugar	51,168	15	15	314,381	6	9	15,719	4	0
Joosee, or Molasses.....	15,519	10	3	14,828	1	9	741	5	15
Jaggery (Kund seah) or Bellee, or Goor ...	12,346	5	13	21,935	14	0	1,097	0	2
Sugar-candy (Misree).....	20	7	10	348	8	0	17	7	0
Ditto Turry, called in Hindostan, Rual.....	800	25	0	2,600	7	0	130	0	10
Chootah (a Species of Molasses)	—			—			—		
Goolkund (Conserve of Roses, being a Composition of Sugar and Roses).....	22	30	8	230	6	0	11	8	5
Goolchukeree (a Drink made out of the same Materials).....	6	3	8	60	10	0	3	0	5
Ollah (Sugar Balls made of Chinny or White Sugar).....	6	7	0	71	4	0	3	9	0
Total Sugar, &c.....	83,383	10	13	365,320	8	9	18,266	4	12
Total Addition of Five Years.									
Sugar, &c. viz. Sugar (Shukur or Khand)...	12,842	34	8	39,618	1	0	1,981	0	7
Chinny, or White Sugar	156,470	35	7	1,022,416	0	0	51,122	10	7
Joosee, or Molasses.....	16,073	0	3	15,658	3	9	782	14	5
Jaggery (Kund seah) or Bellee, or Goor.....	30,110	15	13	56,708	5	6	2,835	11	15
Sugar-candy (Misree).....	64	11	14	1,139	8	0	56	15	15
Ditto Turry, called in Hindostan, Rual	849	32	8	2,705	15	6	135	4	15
Chootah (a Species of Molasses)	23,945	7	6	25,716	15	3	1,285	14	5
Goolkund (Conserve of Roses, being a Composition of Sugar and Roses).....	38	21	0	390	7	3	19	8	10
Goolchukeree (a Drink made out of the same Materials).....	0	2	8	100	10	0	5	0	5
Ollah (Sugar Balls made of Chinny or White Sugar).....	8	31	0	98	8	0	4	14	15
Total of Sugar, &c.....	240,413	33	3	1,164,552	0	0	58,229	15	0
Medium.....	—			—			11,645	15	15

Benares, 21st October, 1790. (Signed) J. DUNCAN, Resident.

(Errors excepted.)

(A.)

A STATEMENT of the Importation of the Sugar, Sukker, Jaggery, and Joosee, from Benares, as per Account Custom-house Mangee, upon which the Duty of 2½ per Cent. has been collected, from 1st July 1788 to August 1790, inclusive.

	SUGAR.			SUKKER.			JAGGERY.			JOOSEY.		
	Mds.	Valuation.	Duties.	Mds.	Valuation.	Duties.	Mds.	Valuation.	Duties.	Mds.	Valuation.	Duties.
In the Year 1788, from July to December, is six months -	45,916 30 12	269,867 13 0	6,746 11 3	7,242 0 14	21,649 7 9	541 3 3	13,666 16 12	24,078 15 0	602 0 0	10,339 0 6	10,636 15 0	265 14 9
In the Year 1789, from January to Dec. is twelve months ...	52,269 27 14	325,457 9 3	8,136 7 3	6,545 23 0	20,598 5 9	514 15 3	22,587 7 13	41,555 10 6	1,038 14 0	17,800 1 8	17,284 11 3	432 2 0
In the Year 1790, from January to Aug. is eight Months.....	38,167 9 2	202,178 0 0	6,054 7 3	2,462 9 8	7,079 7 3	177 0 0	17,602 38 3	25,941 5 3	648 8 9	15,937 11 12	11,401 0 9	285 0 0
	1,39,353 27 12	797,503 6 3	19,937 9 9	16,249 33 6	49,327 4 9	1,233 2 6	53,856 22 12	91,575 14 9	2,289 6 9	44,078 19 4	39,322 11 0	983 0 9

	TOTAL.		
	Mds.	Valuation.	Duties.
In the Year 1788, from July to December, is six months ...	77,163 14 6	326,133 2 9	8,155 13 3
In the Year 1789, from January to Dec. is twelve months ...	102,204 20 3	404,896 4 9	10,122 6 6
In the Year 1790, from January to Aug. is eight months.....	74,169 28 9	246,599 13 3	6,165 0 0
	253,538 23 2	977,729 4 9	24,443 3 9

Government Custom-house,
Mangee, 22d September 1790.

HENRY REVELL, Collector-General of Customs.

Papers referred to in Report of Committee of Warehouses, 29 Feb. 1792.

Papers referred to in Report of Committee of Warehouses, 29 Feb. 1792.

No. 6.

To John White, Esq. Secretary to the Public Department.

SIR:—In obedience to the orders of the Governor-General in Council, of the 8th instant, I have the pleasure to transmit to you, herewith enclosed, for his information, copy of a Statement of the Amount, Valuation, and Duties collected upon Sugar, Jaggery, &c. that has passed this station from 1st July 1788 to 30th August 1790, inclusive.

I am, &c.

Custom-House,
Mangee, 22d Sept. 1790.

HENRY REVELL,
Collector Government Cust

[See Account A, p. 39.]

No. 7.

To Edward Hay, Esq. Secretary to the Government.

SIR:—In obedience to the orders of the Governor-General in Council to me, dated the 8th instant, I have the honour of laying before you, for their information, the statement required:

No. 1. Statement of duties collected on Arrack and Rum imported from the country.
No. 2. Ditto ditto on Sugar and Jaggery.
No. 3. Ditto ditto on Sugar-candy imported from sea.

There were no export duties collected in my office.

I am, &c.

Custom-House,
18th Sept. 1790.

J. MACAN.

No. 1.

	C.Rs.		
Import Duties collected on country Arrack and Rum, from the years 1785 to 1789, being 5 years	28,175	13	0
Average of one year	5,635	2	6

No export duty.

No. 2.

Imported into Calcutta from the interior parts of the country, duties collected for the years 1785, 1786, 1787, 1788, and 1789, on Sugar-candy, Soft Sugar, and Jaggery	76,741	1	6
Medium for one year	15,348	3	6

No export duties collected on any goods whatever.

J. MACAN, C. M.

No. 3.

Imported into Calcutta from sea Duties collected for the years 1785, 1786, 1787, 1788, and 1789 on Sugar-candy	3,117	0	9
Medium for one year	623	6	6

Besides the above, great quantities of sugar-candy have been imported and paid duty, though not separately specified on the books, having been included in invoices with other articles on which the usual advance has been put, and the duties generally levied. No soft sugar or jaggery from sea.

(Signed) J. MACAN, C. M.

In the preceding account given in by the custom-master at Calcutta, the *amount* of the *duties* only are stated, from which no accurate judgment can be formed of the quantities; but the following statement of the quantities imported from 1773 to 1787 inclusive, will in some degree supply the defect.

EXTRACT

EXTRACT from the Custom-House Books of Calcutta, shewing the Quantity of Sugar annually imported into that City alone, without Reference to the Imports of Benares, Patna, Moorshedabad, and Dacca, from 1773 to 1787, inclusive.

Papers referred to in Report of Committee of Warehouses, 29 Feb. 1792.

Year.	Clay Sugar and Candy from Rungpore, Patna, and Radanagore.	Jaggery or Muscavado, from Burdwan, Jepore, Beerboon and Bishenpore.	Liquid Jagger or Molasses.	Duties.	
	Maunds.	Maunds.	Pots.	Rupees.	Rupees.
1773	17,224½	31,795	135,622	S 4,677 9 0 J 2,634 15 0	7,312 8
1774	28,262½	61,875	120,920	S 8,842 10 0 J 3,399 1 0	12,241 11
1775	50,226¾	51,480¼	191,624	S 11,003 1 3 J 3,970 12 3	14,973 13
1776	32,617¾	50,403¼	222,609	S 7,331 7 0 J 3,960 5 0	11,291 12
1777	25,537¼	48,458	273,542	S 6,069 3 9 J 4,088 4 3	10,557 8
1778	32,707	46,592	423,021	S 7,981 0 0 J 4,137 1 3	12,118 1
1779	32,593½ [10 Chests, 49 Boxes]	76,167	248,511 *	S 7,906 12 3 J 5,900 0 0	13,806 12
1780	27,773½ [91 Boxes.]	46,654½	omitted	S 7,177 3 9 J 3,880 4 6	11,057 8
1781	37,879¼	43,128½	410,813	S 9,808 4 9 J 4,833 2 0	14,691 6
1782	46,443½	46,792½	1,108,839 †	S 14,086 5 0 J 6,192 7 6	20,278 12
1783	47,553½	63,128½	420,915	S 12,522 4 9 J 6,221 8 3	18,743 13
1784	36,573½	41,223	329,000	S 10,648 14 6 J 4,762 12 6	15,411 11
1785	30,949	42,231	331,000	S 8,880 0 6 J 4,962 12 9	13,842 13
1786	28,140¼	47,592½	1,108,839	S 8,651 0 6 J 6,292 7 6	14,943 8
1787	51,545½	43,565	422,522	S 14,558 5 6 J 5,125 1 0	19,683 6

Note.—The sugar-candy imported from China is not included, the Duty upon that being charged under another head.

* A Comparison of the Jaggery duty will prove, that the Pots have been omitted nearly to the actual amount.

† This 12,522 upon 47,553½ seems to be some error, as the preceding year 14,086 is levied upon 46,443½.

EXTRACTS

EXTRACTS PROCEEDINGS in INDIA respecting the Cultivation and Trade in SUGAR.

BENGAL.

EXTRACT Letter from Board of Trade, 10th August 1790.

Letter from Board of Trade, 10 Aug. 1790.

Par. 13. A quantity of Benares sugar, and samples of other sugars, and of tobacco in the leaf, the produce of Bengal and Behar, are included in the cargo of the Houghton, by way of trial; the result of which we shall be glad to be informed of, and to receive the Court's instructions in regard to a repetition of it, and to what extent.

EXTRACT Letter from Board of Trade, 16th November 1790.

Letter from Board of Trade, 16 Nov. 1790.

Par. 14. About one hundred and five tons of turmerick were originally intended for the ship Princess Amelia, but the whole having been much damaged by insects, it was necessarily laid aside. To the amount of eighty-seven tons of sugar was purchased and laden, with five hundred additional bags of saltpetre. As casks or boxes could not be procured in time for the package of the sugar, there was a necessity for using bags, namely, a single one of Patna wrapper, then two thick rice gunny-bags; a mode of package practised by the native merchants, and which we hope will be sufficient to protect it from damage.

EXTRACT Letter from Board of Trade, 25th January 1791.

Letter from Board of Trade, 25 Jan. 1791.

Par. 1. The Board are anxious to know the result of the experiments in this article (sugar) now on the way to Europe. The high freight of the Company's ships, and the high partial duties, are heavy charges upon it; but from its cheapness and goodness in Bengal, an export trade to America and Flanders is rising very fast in it. It were to be wished this could be directed to the support of British instead of foreign navigation. It is advisable to continue the experiment, at least so far as to fill up the tonnage usually taken up with redwood. The sum of C.Rs. 40,000 the Board accordingly judge may be a proper allotment for this article of sugar, of which C.Rs. 15,000 may be invested at Benares, 10,000 at Rungpore, 10,000 at Radnagore, and 5,000 may be reserved for Beerbhoom sugar, which is of a quality different from the Bengal and Benares sorts. These several sugars, when sent home, must be particularly noticed to the Court of Directors, and information requested from them which is the fittest for the Europe market.

EXTRACT Letter from Board of Trade, 8th November 1791.

Letter from Board of Trade, 8 Nov. 1791.

6. In conseqence of the intelligence from Madras (the amount tonnage required), we put an immediate stop to the further provision of sugar and turmerick.

11. Sundry new articles being laden on the Queen, we submit the following remarks concerning them:

Of this article (sugar), which most assuredly will, either upon English or foreign ships, become a very considerable article of export to different parts of Europe, we have by the Queen sent one hundred tons, provided at the different factories of Benares, Rungpore, and Soonamooky. *viz.*

	Bags.		Maunds.		
Benares, 1st sort	100	...	200		
2d ditto	140	...	279	3	4
	240		479	3	4

Rungpore,

	Bags.	Maunds.		
Rungpore, 1st sort	743			
2d ditto	100			
	843	... 1688	27	11
Soonamooky	530	... 832	36	14

Letter from Board of Trade, 8 Nov. 1791.

We must request it may be recommended to the Hon. Court, that particular attention may be given to the qualities of these sugars, as we understand that the difference between them is principally owing to the inherent properties of cane or soil, more than to the different mode of preparation of the juice of the cane. We are ourselves too imperfectly acquainted with the nature of sugar, to be able to form an opinion which sort is best adapted to the refiner's use; but the natives say, that the sugars produced in Bengal are stronger and sweeter than those of the Upper Provinces.

The Benares sugar now sent averages, with all charges to the time of clearing the warehouse, C.Rs. 5 12 6 per maund, or 17*s.* 4*d.* per cwt.

The Rungpore sort	5 13 7	17	$6\frac{1}{2}$
Soonamooky	6 12 1	20	3

The charges of cooley, boat, and sloop hire, from the Export Warehouse to the ship at Cox's Island, amount to about 7d. per cwt. Could the ship have taken in the sugar at Diamond Harbour, the amount would have been about $4\frac{1}{2}$d. per cwt.

The Benares appears the whitest, but it more readily attracts the damp of the atmosphere. The Rungpore appears very like the Benares, but hardly so white: it seems harder grained, and very little attracts the damp of the atmosphere. The Soonamooky is browner than either of the preceding; and has a hard gritty grain. Part of the Soonamooky which was sent down in wooden boxes was much affected by the damp of the atmosphere, but the greater part came down in mats, and was less affected by damp.

We are the more particular in communicating such circumstances as are within our observation, lest the opinion which may have been formed in England, from the Benares sugar sent in 1790 by the Houghton, should be applied to the various sugars of this country.

12. We request particular advice may be afforded us as to the best mode of package. We know that the sugars from the British West-India Islands are sent home in hogsheads, which we understand to be the cheapest package procurable there; but bags are here much cheaper than casks or wooden boxes, they stow better in the ship and are easier of carriage.

The Benares sugar is packed in a bag of coarse white cloth, and two gunny-bags over it. The Rungpore is packed some of it the same way as the Benares, but most in treble gunny-bags. The Soonamooky is some of it also packed as the Benares, but the greater part in mats covered with double gunny-bags.

EXTRACT Board of Trade's Consultations, 20 December 1791.

Received a letter from the Sub-Secretary to the Public Department:

Board of Trade to Commercial Residents of Rungpore, 20 Dec. 1791.

Sir:—I am directed to acquaint you that the Governor General in Council has approved of the amount proposed by the Board of Trade.

I am &c.

J. L. CHAUVET, Sub-Secretary.

Council Chamber, 7th December 1791.

In consequence of the above notification, the Commercial Residents at Rungpore, Soonamooky, Radnagore, and Benares, were written to as follows:

1. Sir:—We have allotted the sum of C.Rs. 50,000 to be invested in sugar at your station for the ensuing year 1792, which sum will be immediately issued to you.

2. We have been induced to apply for the issue being made to you thus early,

Board of Trade to the Commercial Residents of Rungpore, 20 Dec. 1791.

early, in consequence of your representation of the 27th November, and of the suggestion in your letter of the 30th January last, of making advances while the crop is on the ground, as the most eligible mode of provision.

3. As sugar promises to become a considerable article of export from this country to Europe, and also to America, as the Court of Directors wish to encourage it, and as our experience in this branch of commerce is yet very slender, we wish to obtain the most ample detailed information of every thing relating to the subject.

4. The part to which we most particularly wish you to direct your inquiries is the process used by the natives in boiling and purifying the juice after it is pressed from the cane, and the various degrees of purity or refinement to which they carry the process; and we desire you to illustrate this information, by sending large samples, say twenty or thirty maunds, or more if not inconvenient, of each degree of purity.

5. We also desire you will inquire whether there be any sorts of sugar produced within the circle of your districts, the inherent properties of which are, or are reported by the natives to be different from each other; such as being sweeter or producing a stronger grain, or yielding a greater quantity of sugar from the same quantity of raw juice; and that you will endeavour to ascertain whether such difference arises from the sort of cane, from the mode of cultivation, or from the nature of the soil; and that you will also send large samples of each. If there be different sorts of cane, you will please to give the best description of each sort you can obtain, distinguishing the sort esteemed superior or most profitable.

6. You will please also to direct your inquiries to the nature of the soil best adapted to the growth of the cane; the mode of preparing it for planting; the estimated quantity of plants required for a biggah; the mode of cultivating it; the average produce per biggah; the profit attending the cultivation, compared with grain, cotton, and mulberry, or other staple productions of the country; the revenue paid to Government from lands cultivated with sugar; what revenue the same land would pay were it to be cultivated with rice or other grain; whether there exists any customs or impositions of zemindars, farmers, or others concerned in the revenue, tending to discourage or to check the cultivation of sugar; the quantity usually produced in and exported from your districts; and, in general, any other particulars that may suggest themselves as pertinent to the subject.

7. In regard to the mode of provision suggested by you, we must desire you particularly to inform us of the description of people to whom you make the advances; and whether they themselves cultivate the cane upon their own lands, or make advances to husbandmen or others, and the rate and manner of settling these under-advances.

8. The mode of provision by advances is liable to risk of loss by balances. We know that in the cloth branch care and attention renders this loss trivial; and we trust that in this new branch of commerce the same conduct will have the same effect; but we must observe that the drought of the present season, and probably approaching dearth, make it necessary for you to be more cautious whom you trust.

9. After providing for procuring the quantities we have desired as samples, we wish the remainder of the investment may be of the quality of No. 1. provided by you for the present year.

10. We desire your early answers to the information we seek respecting the process of boiling and purifying, and respecting the making of advances. The other points will require more time; but we shall be glad to receive them, if possible, sufficiently early for our considering them, and transmitting them, with any observations we may have to make thereupon, to the Court of Directors by the ships of the present season.

11. As soon as you can you will please to furnish us with a statement of the sorts of sugar, their prices, and the quantities you may be able to provide with the sum allotted you.

We are, &c.

Board of Trade to the Commercial Resident of Soonamooky, 20 Dec. 1791.

1. Sir:—(As to Rungpore. Allotment 50,000.)

2. We have been induced to apply for the issue being made to you thus early, in consequence of its having been suggested to us that making advances while the crop is on the ground is the most eligible mode of provision.

3. At the same time we have adverted to what you have represented in your letter of 11th September last, which has its weight in inclining us to prefer making advances for the provision of the article; but with respect to employing an European inspector, we must observe that European servants are very expensive, and that the extent of the provision determined upon this year for your factory does not appear to us to authorize such expense.

4 to 9. (As 3 to 8 to Rungpore.)

10. After providing for procuring the quantities we have desired as samples, we wish one-half of the remainder of the investment to be of the quality of the muster of the first sort, sent by you on the 15th June, and the other half of the quality sent by you in the present year.

11 and 12. (As 10 and 11 to Rungpore.)

To Radnagore.

1. Sir:—(As to Rungpore. Allotment 50,000.)

2. (As to Soonamooky.)

3. (As to Rungpore.)

4. (Ditto, adding these words) of the refined sort, which is made up in balls and called by the natives Oolah, or of any other sorts of equal degrees of fineness. Samples of three or four maunds of each sort will be sufficient.

5 to 8. (As to Rungpore.)

9. Not having yet received any consignments of sugar from you for the present year, we suspend any directions as to the quality of the bulk of the investment for 1792 till we may see your consignments. You will, of course, provide the samples we have desired in paragraph 4.

10 and 11. (As to Rungpore.)

To Benares.

1. Sir:—We have allotted the sum of C.Rs. 15,000 to be invested in sugar at your station for the ensuing year 1792, which sum will be immediately issued to you.

2. Our anxiety for the success of this new and promising branch of commerce, has led us to request the advance may be made while the crop is on the ground, to the end that the most eligible mode of provision may be adopted by you.

3. The lights we have hitherto obtained, lead us to believe that the sugars of the Lower Provinces are stronger grained than those of your districts. This circumstance, as well as others not necessary to be touched upon, lead us to give a preference to sugar the produce of Bengal. However, we are sensible the produce of your districts are of much importance in the scale of commerce, and we should be glad to receive from you every possible information upon the subject.

4. For your guidance as to the points to which we wish your inquiries to be directed, we send copy of instructions we have transmitted to one of our Residents in Bengal, and desire that you will, as far as applicable to the provision of your factory and to the state of your district, furnish us with similar information.

5. Instead of the large samples therein required, it will be sufficient that you send us four or five maunds of each sort, especially of the fine sorts. We transmit to you a small sample of some refined sugar we have lately bought here, and desire you to inform us for what price sugar of that quality is procurable.

Board of Trade to the Commercial Resident of Benares, 20 Dec. 1791.

6. The bulk of the investment we wish to be of the same quality as No. 1. of your consignments of this year.

EXTRACT Minute of Board of Trade, 20 December 1791, on the Letter of the Court of Directors to the Bengal Government of 6th May 1791.

Minute of Board of Trade, 20 Dec. 1791.

The Board are giving sugar their attentive consideration, and will shortly record their ideas upon it.

Ordered, that the Export Warehouse be desired to furnish an explanation of the circumstances noted in paragraphs 68 to 71 of the Court's Letter respecting the charges on the sugar from Benares, and on the purchase in Calcutta from Messrs. Cockrell and Trail, sent home on the Houghton.

The Court's orders for sending home specimens of every description of sugar have been attended to in the instructions recorded on this day's Consultation to the stations where the article is provided. Different specimens are also provided in Calcutta, as opportunity offers.

The Board will be glad to have the opportunity of comparing the West-India mode of cultivating and preparing sugar with that in use in these provinces, and will afford Mr. Paterson every assistance in their power in the execution of his undertaking.

On the 6th December the Board proposed to the Governor-General in Council to allot for the provision of this new and promising branch of commerce the sum of C.Rs. 1,65,000. The distribution was made as follows, and particular instructions on the subject were sent to the Residents.

Rungpore .....C.Rs.	50,000
Radnagore	50,000
Soonamooky	50,000
Benares	15,000
	1,65,000

EXTRACT Letter from Board of Trade, 24 January 1792.

Letter from Board of Trade, 24 Jan. 1792.

2. We send the following supplementary papers respecting sugar.

Statement of sugar provided at Radnagore.—The sugar of this district being much esteemed by the natives, we request that very particular reports of experiments in refining it may be transmitted to us from England. Its cost, commission and all charges included to the time of leaving the Export Warehouse, is C.Rs. 5 6 0 per factory maund, or 16*s.* 1½*d.* per cwt., at the exchange of 2*s.* per Current Rupee. This is the lowest-priced sugar of any yet sent. Hitherto the boxes have been covered with gunny; but as this appears unnecessary, the charge of cording only will occur in future.

Statement of Sooksagore and Benares sugars purchased in the bazar.—These sugars were bought when the price of the article was very high. The quantities sent are small, being designed merely for experiment. Their cost, and the quality of the latter, are much the same, we understand, as those of the sugar that is gone this season to America, and to the foreign ports in Europe.

Statement relative to some purified Benares sugar purchased in Calcutta, of which a small quantity is sent by way of sample. Some went by the Phœnix.

3. In the above several statements, the rate of charges of transportation from the Export Warehouse to the ships will be found to vary. This arises from the calculation being made by the maund, and the charges made upon the package; and as the packages do not all contain the same quantity, the difference above noticed must of course occur.

EXTRACT

EXTRACT Board of Trade Consultations, 3d January 1792.

Read a Letter from the Resident at Soonamooky, dated 31st December 1791, *viz.* — Resident at Soonamooky to Board of Trade, 31 Dec. 1791.

Gentlemen:—Accompanying I forward you a small parcel of sugar manufactured in Bishenpore, the price of which is stated to be seven Sicca Rupees per maund of sixty sicca weight, or about S.Rs. 8 8 per factory maund.

I am not clear but that it may be had cheaper; but not having had time to make every requisite inquiry, I have merely taken the price mentioned, and forward the muster: and in the event of your approving it, shall go down to Bishenpore, and endeavour to settle for the quantity procurable or which may be required.

If the present price is conceived too high, the Board had better let me know what rate they can allow, as I can then finally either agree or abandon the article.

I have, &c.

Soorool, 31st December 1791. J. CHEAP.

Agreed, we answer this letter as follows:

Sir:—We have received your letter of the 31st December with a sample of sugar. — Board of Trade to Soonamooky, 3 Jan. 1792.

One hundred maunds of this sugar may be provided, by way of sample, in part of your allotment for the present year 1792: the price we leave to your discretion. We desire you will procure and send us a sample of this sugar in its first stage of granulation; and, agreeably to our instructions of the 20th December, inform yourself of the process of bringing it to its present state.

We are, &c.

EXTRACT Letter from Board of Trade, 20th April 1792.

Par. 6. The value of the consignments of sugar made to the Court of Directors this season appears to be C.Rs. 30,059 9 7. — Letter from Board of Trade, 20 April 1792.

16. The Court of Directors, in the 68th and 69th paragraphs of their letter of the 6th May 1791, remark, that the original purchase price of certain Benares sugar is, in a statement recorded on our Consultation of 24th December 1789, estimated at an average of Trissooly Rupees 5 12 per maund of ninety-six sicca weight to the seer; whereas, by the Houghton's invoice, it is rated at C.Rs. 5 8 13 2 3 7 per factory maund: and as the Trissooly Rupee is, they observe, only 4 per cent. better than current, and the factory maund is inferior to that of ninety-six sicca weight by 32 per cent., they are unable, they say, to reconcile the difference between the two rates. In explanation we beg leave to mention, that the sugar actually purchased appears to have been rather superior to, and higher-priced than the first of the four sorts averaged, and to have come to Trissooly Rupees 7 1 2 per maund of ninety-six sicca weight, making per factory maund the rate of C.Rs. 5 8 13 2 3 7, stated in the Houghton's invoice. The Honourable Court have founded their remark upon an average rate, which has led to the obscurity they notice.

17. The Honourable Court, in the 70th and 71st paragraphs of the same letter, notice the larger amount of charges which fell upon certain Benares sugar purchased in Calcutta of Messrs. Cockrell and Trail, than upon the larger parcel above alluded to, of Mr. Lloyd's provision in the district; upon the former of which, the charges are stated to have amounted to C.Rs. 244 3 11, but upon the latter, commission included, to only C.Rs. 108 0 9, and the Court desire an explanation of the circumstance. Accordingly we transmit herewith two statements, shewing the charges on each, by which it appears, that in the above sum of C.Rs. 108 0 9 is not included a charge incurred at the Export Warehouse, to the amount of C.Rs. 83 0 3, for the re-package of the sugar in boxes, making the true amount of charges C.Rs. 191 1 0; and that the difference in the proportion of charges on the two parcels arises principally from the more expensive package of the Calcutta purchase in casks.

18. The

Letter from Board of Trade, 20 April 1792.

18. The mode we have now adopted of furnishing subsidiary explanatory invoices of each new article consigned to London, fully details every item of expense, and will enable the Honourable Court to judge what charges are peculiar to the consignment in question, and what are again likely to recur in the event of the article becoming a part of the regular annual investment.

EXTRACT Board of Trade Consultations, 10th July 1792.

Mr. Bebb informs the Board, that in the course of inquiries about sugar, having understood that sugar cane is produced in the neighbourhood of Commercolly, he opened a correspondence with Mr. Becher, the Resident there, on the subject, and now lays before the Board that gentleman's last letter to him, with the sample of sugar referred to in it.

Letter from Commercolly, 5 July 1792.

Sir:—I have now the pleasure to forward a sample of sugar made here: it is not so good as may be produced in the dry season. The price cannot be exactly ascertained by a single trial. It will, according to the best calculation I am able to form, amount to S.Rs. 5 4 per maund of seventy-two sicca weight to the seer; and I suppose from 6,000 to 7,000 maunds might be procured annually, and considerably more if advances were made and encouragement given to the people who cultivate the sugar-cane.

I am, &c.

Commercolly, 5th July 1792. RICHARD BECHER.

In consequence of the above the Board write to the Resident as follows:

Letter to Commercolly, 10 July 1792.

Sir:—Mr. Bebb having laid before us the sample you sent him of sugar made in your districts, with your letter to him which accompanied it, we desire you will purchase all that you can procure in time for the ships of the present season.

You will please to inform us, as speedily as may be, of the amount you will require for the purpose, and of the periods at which it must be issued to you, and we shall cause you to be supplied. In the mean time, you may borrow, if necessary, from your silk funds.

We enclose an extract of an instruction to another agent on the subject of sugar, and desire you will make inquiries at your station similar to those therein directed.

We are, &c.

10th July 1792.

Ordered, That the sample be deposited in the Export Warehouse.

EXTRACT Bengal Board of Trade Consultations, 20th July 1792.

Read a letter from Commercolly as follows:

Letter from Resident Commercolly, 15 July 1792.

Gentlemen:—I am honoured with your letter of the 10th instant, and according to your directions shall proceed immediately to take the necessary steps for the provision of sugar. I am not able, at present, to ascertain with any degree of certainty what quantity may be procured in time for the ships of the present season, but have sent people into the aurungs to secure as much as possible of the goor, and as soon as I receive accounts of the quantity likely to be obtained, I shall not fail to give you information thereof. In the mean time, I shall be glad of an advance of C.Rs. 10,000.

As sugar is not made here, but the goor exported to different places; the mode of provision I would propose for the present, is purchasing the latter immediately, and erecting the necessary works for boiling and refining it, the season for which will not begin before October. The people here being ignorant of the process, I am under the necessity of sending to other places for men who are experienced in the business; and having but little knowledge of the subject myself, I must beg a little time to make the inquiries you desire.

I have, &c.

RICH. BECHER, Resident.

Commercolly, 15th July 1792,

Agreed,

Agreed, That the following answer be written to the Resident, and that application be made for the advance he requests, as under :

Board of Trade to Resident of Benares, 20 July 1792.

Sir :—We have received your letter of the 15th instant, in reply to ours of the 10th, on the subject of a sugar investment at your station.

We approve of what you have done in the business, and have applied for the advance of cash you desire on account thereof.

We wish that, for the present, your disbursements for the sugar be not brought into your general accounts, but that the account of them be kept apart, and sent down monthly with a separate letter. Your correspondence in general on the subject, we wish moreover to come distinct from other matter.

We are, &c.

LETTER from the Board of Trade to the Governor-General in Council, 20th July 1792.

Letter from Board of Trade to Government, 20 July 1792.

(Secret Department.)—My Lord :—We beg leave to inform your Lordship, that having recently learned that the sugar-cane is cultivated in the Commercolly districts, we, in pursuance of the Court of Directors' wishes that the consignment of sugar to them this season should be as large as possible, sent instructions to the Resident to engage for the Company all he can procure. What the quantity may be he has, in his reply, reported to be not as yet ascertainable : but having desired an immediate advance of C.Rs. 10,000, to enable him to commence the provision, we request you will be pleased to grant him a credit accordingly upon one of the Collectors, as in further augmentation of his investment.

We are, &c.

EXTRACT Board of Trade Consultations, 24th July 1792.

Received the following letter from the Sub-Secretary of the Government :

Letter from Government to Board of Trade, 23 July 1792.

Sir :—I am directed by the Governor-General in Council to acknowledge the receipt of the Board of Trade's letter of the 20th instant, and to desire that you will acquaint them that the Board of Revenue have been instructed to give orders for advancing to the Commercial Resident at Commercolly the sum of C.Rs. 10,000, in further augmentation of his investment.

I am, &c.

J. FOMBELLE, Sub-Secretary.

Council Chamber, 23d July 1792.

EXTRACT Board of Trade Consultations, 3d August 1792.

The present state of the sugar trade appearing to render expedient the taking early measures for providing cargoes of the article for the ships that will sail from hence in the season 1793-4, Agreed, that the following instructions be circulated to the Sugar Aurungs : *viz.* Benares, Commercolly, Radnagore, Rungpore, Santipore, Soonamooky, and Patna.

Board of Trade to the Commercial Residents, 3 August 1792.

Sir :—Being desirous of obtaining for the Honourable Company as large a quantity as possible of sugar from the cane now upon the ground, we request you to take such measures as may appear most eligible to you for this purpose, and to inform us, as soon as you can, what money you will require, when you will require it, what quantity of the article you may be able to procure, and what mode of provision you may adopt.

The sugar that you may procure cannot be exported previous to the shipping season of 1793-4 ; but we are thus early in our directions, on account of the eager speculations which exist, and are likely to continue, in this article, from the scarcity of it in the Europe market, in consequence of the disturbances in the French West-India Islands ; and we request that you will proceed with all the despatch in your power, and be especially careful to keep the purport of these orders from transpiring, as your difficulties might thereby be considerably increased.

We are not able to give any specific directions in regard to price. You must be guided by local circumstances, and we rely upon your discretion for procuring the article as reasonably as you can.

Board of Trade to the Sugar Aurungs, 3 August 1792.

You will please, for the present, to keep your correspondence upon this subject distinct from other matter, and also your account of disbursements.

We are, &c.

Additional, to Santipoor:

Not knowing how the date-tree sugar may be approved in Europe, we do not give you an unlimited order for this sort; but as we think it expedient to procure some, that in case of its being found to answer you may be in the habit of intercourse with the growers or manufacturers of it, we desire you to procure as far as 3,000 factory maunds.

Agreed, That copy of these instructions be laid before the Governor-General in Council, and that we address him therewith as follows:

Board of Trade to Government.

(Secret Department.)—My Lord:—The present state of the sugar trade appearing to render it expedient to take early measures for providing cargoes of the article for the ships that will sail from hence in the season of 1793-4, we have issued to the Sugar Aurungs the instructions of which the enclosed is copy, and hope that the same will be approved by your Lordship.

We are, &c.

Board of Trade to Resident of Patna.

The Board understanding that sugar is produced in the Behar province, though not hitherto in quantities sufficient to have had a name in the market, they think it will be advisable to learn what can be procured from thence, and accordingly transmit to the Resident at Patna extract of the general instructions of 20th December 1791, with the following letter:

Sir:—Understanding that sugar is produced in the Behar province, and wishing it to be introduced into the Company's investment, we enclose extract of instructions sent to other stations on the subject of this article, and desire you will apply the same, as nearly as you can, to circumstances in your quarter.

We are, &c.

The orders above minuted to the other agents are also sent to him in a separate address.

EXTRACT Board of Trade Consultations, 4th August 1792.

Read the following letter from Commercolly:

Resident of Commercolly to the Board of Trade, 31 July 1792.

Gentlemen:—I had the honour to address you on the 15th relative to the provision of sugar, since which the price of goor has risen from 1 rupee to 1 8 and 1 10 per cutcha maund, which will increase the price of the sugar to 7 8 or 7 12 per maund of 72 sicca weight; and as I am apprehensive of a still further increase, I think it necessary to request your instructions in regard to price, that I may not exceed what you would wish to be given; and until I am favoured with your answer, I shall avoid, as much as possible, entering into fixed engagements for the purchase of any considerable quantity.

I am in treaty with the ryotts who have sugar-cane plantations for the purchase of their crops, which will be cut about the beginning of November, and shall require another Rs. 10,000, to make the necessary advances, which I shall do with the utmost caution, so as to avoid as much as possible the risk of balances. If you should approve of this method, I must request the supply of cash as early as possible, this being the season for making the advances, and some being already made by the merchants who usually buy up the goor.

I am, &c.

Commercolly, 31st July 1792. RICH. BECHER, Resident.

Board of Trade to Commercolly, 4 August 1792.

Agreed, That the Resident be written to, in answer, as follows, and that the further advance he desires be applied for, as under:

Sir:—We have received your letter of the 31st July.

We desire you will close for the goor without delay, even at a higher rate than that to which you mention it to have risen, should you find it necessary.

Our letter to you of yesterday's date will convey our sanction of the measure you have adopted, of engaging for the produce of the cane on the ground. We shall obtain for you the further supply of cash you desire.

We are, &c.

(Secret

(Secret Department.)—My Lord:—The Resident at Commercolly having occasion for the further sum of C.Rs. 10,000, for the provision of sugar, we request you will be pleased to cause the same to be advanced to him by one of the Collectors, as for the service of the investment.

Board of Trade Consultations, 4 August 1792.

We are, &c.

Extract Board of Trade Consultations, 7th August 1792.

Minute of Board of Trade, 7 August 1792.

The Board have long had under consideration the new commerce which has arisen in sugar, and now record their deliberations on the subject.

The success which the first experiments* of sugar sent to England have met with, promise a great increase to the agriculture of these provinces, and to the navigation and benefit of the Company and of the nation. The Board have before had occasion to observe (Consultations, 12th November), that the article was becoming a staple export to Europe upon ships under foreign colours. Some last year went to Ostend or Hamburgh, and to America, in consequence of former speculation to both continents having afforded a good profit.

The attention which the Honourable Court have given to the subject, and the favourable sentiments they have expressed of it, encourage the following deliberations respecting this new and promising branch of commerce.

Bengal has for many ages produced sugar, and till twenty-five or thirty years ago did export a quantity to other parts of India and to Arabia; but it, in great measure, lost the trade, by being undersold in those markets by sugar from Batavia and China. It is certainly capable, with encouragement, and allowing the time requisite for increase of produce. The price is usually so low, that notwithstanding the greater distance, it can be carried from hence to Europe and North America, and sold with profit for less than sugar raised on the British and French West-India Islands, the places from whence Great Britain and Ireland, France, and those countries of Europe which do not possess sugar plantations, and North America, have been mostly supplied with sugar.

The prices of the sugar of the regular provision of 1791, including all charges to the time of being shipped,† may be taken as a sufficient guide for

* Per Houghton. First Experiment, sold March 1791.

	£.	s.	d.		£.	s.	d.
Prime cost and invoice charges of 96 cwt. C.Rs. 1268 at 2s.	126	16	0	Sale of 95 cwt. average of £4 12s. per cwt.	437	0	0
Custom, £37 16s. 3d. p. cent. on sale	165	5	0	Loss	29	10	0
Freight, £26. 10s. per ton and 20 per cent. for kintlege	152	12	0				
Charges merchandize, 5 per cent.	21	17	0				
	£466	10	0		£466	10	0

Per Princess Amelia. Second Experiment, sold July 1791.

Prime cost, &c. of 1,746 cwt. C.Rs. 19,309	£1,931	0	0	Sale of 1,668 cwt.	£8,732	0	0
Custom, as above	3,302	0	0	Average price £5. 4s. 8d. per cwt.			
Freight, ditto	2,776	0	0	N.B. Five bags which contained 10 maunds or 6 cwt., one-third, were delivered empty.			
Charges merchandize, 5 per cent.	437	0	0				
	£8,446	0	0				
Profit	286	0	0				
	£8,732	0	0				

N.B. This sugar was bought out of the Calcutta bazar in October 1790.

	Per factory maund.	Per cwt.	Exchange at 2s. per C.R.
† Benares, first and second sort	C.Rs. 5 10 9	C.Rs. 8 8 1	£0 17 0
Rungpore, first and second	5 13 7	8 12 4	0 17 6¼
Soonamooky	6 12 1	10 2 1	0 20 3
Radnagore	5 0 6	8 1 0	0 16 1½

Shipping charges may be rated as follows:
If the ship is at Calcutta 1d. per cwt.
Diamond Harbour, half-way down the River, 4½d.
Cox's Island (mouth of the River), 7d.

The

Minute of Board of Trade, 7 Aug. 1792.

for the purpose of judgment. An increased demand may be expected to cause a rise, till the cultivation increases in proportion. And in regard to sugar provided in Bengal, some of the Residents estimate the expectation of some decrease in price, should the article become a regular branch of the investment, and be provided by advances made at the proper time. Seasons more or less favourable, of course, will cause a fluctuation. From the early cessation of the rains of 1791, the late crop was scanty. This circumstance, and eager speculation for Europe, has caused the sugar of this year to be uncommonly dear.

In respect to the quality required by refiners, the Board are not competent to speak. The experiments as yet reported to the Directors indicate doubts of East-India sugar having sufficient strength of grain to bear the process of refining; but it must be observed, that these experiments were made upon Benares sugar, which among the natives bears the character of being less sweet and less strong than sugar produced in Bengal. The various sugars which went home last season, will enable the refiners in London to make ample experiments. The result will, of course, become generally known. But setting aside inquiries of this nature, the Board do know, from their own daily experience and observation, that the sugar of this country does perfectly answer all the uses of the tea-table, of the cook, and of the confectioner. The bulk of mankind will be guided by the same tests, and will of course purchase that which comes the cheaper.

Of the price in the West-Indies the Board have not accurate information; but a short comparison of the condition of the cultivators of the ground in the West-India Islands with those of this country, will shew the probability of its always being more expensive to raise sugar there, than in Bengal. The agriculture of the former is carried on under circumstances so forced and unnatural, that while they excite the indignation and pity of the philosopher, they create his astonishment that a concurrence of incidents in human affairs could ever have established them. In order to obtain a rude produce of the ground, human beings have been forced from a country about four thousand miles distant from that which they are to cultivate; and, whatever may have been their former condition or habits of life, are compelled to the rudest toil. None of the West-India labourers are aborigines, none of them are freemen. The whole are slaves imported as above described, or the descendants of such imports: and their population is so continually on the decrease, that regular supplies from Africa are deemed necessary to keep up the requisite number. So confined are the territories of these Islands, at least of the British West-India Islands, and of several of the French, that without neglecting those productions which are the objects of northern nations, they are unable to furnish the food necessary for the support of their own inhabitants. Grain, flour, salt-meat, and salt-fish, are carried at a great expense from the distant regions of Europe and North America, and form the principal subsistence of the slaves.

It is superfluous to dwell upon the heavy charge of the establishment of overseers and superintendants requisite for urging the labour of slaves; but it

The above prices, it must be observed, do not include any allowance for factories, warehouses, establishments, interest of money, risk of balances, risk of transportation; all which may be moderately computed at 20 per cent. upon the cost, *viz.*

Establishment of the Board of Trade, the factories, offices, and warehouses..	8	5	11			
Rent	0	12	5			
				9	2	4

(For the particulars of the above charges, see Proceedings 1st December 1788.)

In proportion as the investment is large this per-centage decreases.

Interest for one year at 8 per cent.	8	0	0

The advances are made from July to December.

The crop is but in January, February, and March, and the produce may arrive in Calcutta in July or August, but the proper season of departure for Europe begins only in November. A full year is therefore assumed.

Risk of the river from the factories and to the ships, and loss by balances and casualties, estimated	2	13	8
Per cent. C. Rs.	20	0	0

it is sufficient to observe, that the expense of obtaining the produce of the ground by such means will necessarily be above the natural level.

Minute of Board of Trade, 7 Aug. 1792.

In this country, the cultivator is either the immediate proprietor of the ground, or he hires it, as in Europe, of the proprietor, and uses his discretion in cultivating what he thinks best adapted to the nature of the soil or the demand of the market. One field produces sugar, the next wheat, rice, or cotton. The husbandman is nourished and cloathed from his own ground; or if he thinks it more his interest to sell the whole of his own produce, supplies himself and family with the necessaries of life from his neighbour or from the next public market.

In the British West-India Islands, the value of a seasoned ordinary man slave, in the prime of life, is about £60, say C.Rs. 600, and the interest of money is there about six per cent., consequently C.Rs. 36 per annum is the value of the stock per head, supposing the stock permanent; Rs. 36 per annum is more than the average price of labour in this country. The death of the slaves decreases the stock in the proportion; taking the matter in a general view, that the number of slaves born in the islands are insufficient to keep up the requisite number without importation from Africa. The Bengal peasantry are freemen, and are, in the usual course of nature, replaced by their children.

Other circumstances have their effects. The West-India slave has no interest in the success of his labour. A good crop alleviates not his condition; a bad one renders it not worse, while he receives his daily ration of European or American grain and salt provision. There is no cheering motive to animate his industry. The proprietor of the estate often resides in Europe, and leaves the management to hired servants, to the consequences of whose knavery and negligence he is open, while his slaves are exposed to their want of humanity.

The Bengal peasant is actuated by the ordinary wants and desires of mankind. His family assist his labour and sooth his toil, and the sharp eye of personal interest guides his judgement.

Of superiority of soil on either side, the Board are incompetent to speak; but they observe that those provinces contain a great variety of very excellent soils. Two circumstances they however notice.

In the West-India Islands, mills and boiling-houses greatly abridge labour, but these mills and boiling-houses are expensive structures. In Bengal, the mill and places for boiling the juice cost very little indeed; they are extremely simple, slight, and cheap. The difference of value between the two must compensate, in a great degree, the greater quantity of labour the latter require. In one respect, however, labour is certainly less. In the West-Indies works are stationary. The cane, a heavy material when just cut, must be carried to them from the most distant parts of the plantation, a very laborious business. In Bengal, the mill, boiling vessels, and covering shed, are so extremely light, that they are easily removed from field to field, as occasion requires, and consequently prevent the labour of distant carriage of the cane.

In the West-Indies, the whole labour of the ground is performed by hand, with the spade or hoe; here the ox and plough, as in Europe, lessen the labour of man and facilitate the production of the earth.

Great part of the West-India Islands are frequently subject to hurricanes, so violent that they destroy the sugar-works and ruin the planter. This country is not so often, nor to so great a degree, subject to similar calamity; and were a sugar work to be entirely destroyed, the loss would be trivial. Inundations are frequent; but the cane is cultivated upon grounds so high as generally to be above the highest rise of the river.

The Board address the preceding remarks chiefly to persons who have never been either in Bengal or in the West-Indies; and state them to demonstrate, that from permanent causes, this country can supply Europe and North America with sugar cheaper than the West-Indies can.

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The Board understand, from the information of the Honorable Court now before them, that the prices of sugar are greatly above their level in England. This is attributed to the late failures in the French West-India Islands, and of course a great demand for the exportation to England.* Another cause, more permanent than that assigned by the Directors, is said to exist, *viz.* that the produce of the West-India Islands has not kept pace with the increased consumption. Too remote from means of immediate inquiry how far this cause may be well founded, let us examine the probability of it, by such reflections as are within our power.

Sugar is so extremely grateful to the human palate, and so salutary to the frame, that it is probable that every individual in any country where it is used, who possesses the means of procuring it, consumes a quantity, in some shape or other, in his food or drink; and it affords the most costly and elegant preparations for the tables of the upper ranks of society. It is deemed peculiarly beneficial to the health of persons who eat much animal food,† either fresh or preserved and will therefore be more particularly desirable to the northern nations of Europe, who live for a great part of the year upon meat preserved by salt or frost.

The northern parts of Europe, especially Russia, are admitted to have greatly increased in civilization, population, and in wealth, since the beginning of the present century. The southern nations do not appear to have declined. North America, which, in regard to the present question, must be considered, since it is supplied with sugar from the same places as Europe, is rapidly increasing in numbers and wealth. From the foregoing causes it may be confidently presumed, that the demand for sugar has increased and is increasing.

The Board's reflections, as to the increase or decrease of produce of sugar in the French and British West-Indies, are given with much diffidence. Some of the smaller islands are known to have been long since worked up to their utmost pitch.‡ What increase of culture the French part of the large Island of Hispaniola may have lately obtained is unknown to the Board; but as the present disquisition points to the line of favour or equality to be observed to different parts of the appendages of the British Empire, it is sufficient to confine the inquiry upon produce to the British West-India Islands. The smaller of these, it has been just observed, were long ago worked up to their utmost pitch. In some of them it has been found better to divert to cotton lands heretofore cultivated with sugar. The largest island belonging to the English, Jamaica, did, in consequence of her supplies of provisions from America being prevented by the late war, extend her cultivation, but it was in the articles her necessities most required, grain and cattle; and it may be very dubious whether the actual produce of sugar in Jamaica be much greater at this moment, than it was before the American war.

The Island of Tobago was, by the peace of 1783, ceded to France: whatever the produce of it was when the late war commenced with France, is therefore so much actual abatement of the whole produce of the British West-India Islands. This added to the preceding cause, renders it highly probable that the produce of sugar in the British West-India Islands has not kept pace with the increased demand.

The Custom-house books in Britain might presumptively shew whether this assumption be well founded; but the Board, as individuals, have authentic information of a circumstance strongly applicable, *viz.* that many of the large refining houses in London have, for these seven or eight years past, stopped their works several months in the year for want of material.

It is asserted, that all the sugar produced in the British West-India Islands is unequal to the British home consumption; that sugar is smuggled from the French

* This Minute was drawn up previous to the advices of the insurrection at St. Domingo being received here, as the Board are treating of permanent causes.

† In the navy, sugar is a part of the allowance to a seaman.

‡ See note above.

French islands to the British, and thence carried to England as the produce of British colonies. The situation of different islands favours this illicit commerce; and the management of the French in their West-India plantations is deemed superior to the English, both by common report and by an eminent writer. The circumstance of a greater number of the proprietors of the French states residing upon them, is alone sufficient to produce this effect.

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The British West-Indies consume a considerable quantity of British manufactures; so does Bengal.* The British West-Indies are stationary as to improvement, and therefore cannot be expected to take off more than they now do. Here the market is very extensive. The inhabitants of these provinces are numerous; and as their prosperity increases, more English woollen cloths, copper, lead, iron, tin, hardware, and other articles, may be consumed by them. The encouragement of export from hence may thus extend the sale of home manufactures.

There is yet a material point in which the British possessions in Bengal and the West-Indies should be compared; that is, their internal powers of defence and security against an enemy.

In Bengal the European troops compose the smaller part of the military force: the greater part consists of natives armed and disciplined under European officers in the European manner. Were the British fleet, by any unfortunate circumstance of storm or defeat, to be disabled, Bengal would not be in the least endangered: did occasion require, the army would soon be increased to any number of regular troops the revenues of the country would maintain.

The two last wars between England and France shew how very insecure most of the West-India Islands are; that they are liable successively to fall to the strongest fleet, having a small body of land forces on board. Their chief strength is in the European garrisons; and these, small and scattered as most of the islands are, must necessarily be each of them weak. They possess no internal resources for defence. They cannot venture to raise troops from among their labourers, the slaves, lest the possession of arms should induce them to turn upon their masters. The militia of planters are few; and a menace from the enemy to destroy their buildings and plantations, immediately awes them into submission: change of government is to them a less evil than the loss of property. The difficulty of procuring fresh provisions and proper refreshments in the West-India Islands, occasions a great loss of seamen and soldiers. In this respect the English suffer more than the French or Spaniards, as their islands are less capable of affording fresh provisions.

Let us suppose that the trade in sugar from Bengal to Europe and America had not arisen, would the British navigation and commerce have extended in consequence of the increased demand for sugar?

If, as has been submitted in the preceding part of this Minute, the produce of the British West-India Islands has not kept pace with the increased demand for sugar, further increase of produce can hardly be expected. New acquisitions are not to be looked for in the West-Indies, as every island in the Archipelago is possessed or claimed by some European power. The high price which the people of Great Britain and Ireland pay for sugar, will benefit the proprietors of the British West-India estates; but as it does not increase the produce of the article, will not afford additional employment for shipping.

It is indisputable, that increase of demand produces increase of supply when human industry can obtain it. The French and Dutch will not only cultivate their islands to the utmost pitch, but it may be presumed will strongly turn their attention to the settlements they possess in the large country of Guiana. Spain may see her interest to encourage cultivation in the valuable Island of Cuba, in her share of Hispaniola, in Porto Rico, or in the ample possessions she holds

* The Company, in the last three years, have imported, on an average, £107,187 per annum, *viz.*: in woollens, £40,398. In metals, £66,789. The imports by the priviliges of the captains and officers of Indiamen, and by French, Danish, Ostend, Italian, and American vessels, may amount to above double that sum annually.

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holds on the Continent. The extent of territory at these places would enable the planters to supply themselves with provisions and lumber, and consequently to sell their produce cheaper than the British. Should the Spanish colonies on the continent of America revolt, their productions might soon abundantly pour into Europe. The possibility of these events deserves notice.

Portugal possesses an extensive and fertile territory in the Brazils, which abundantly produces the article that occasions the present Minute. The increasing demand may excite her industry, and extend the cultivation and commerce of her colonies.

Thus, in the case we have supposed, a non-export from Bengal, the increased demand might cause an increase of the cultivation in the American colonies of other European States and an increase to the navigation of those States, while that of Great Britain would remain *in statu quo*.

There are two causes which, unless removed, will prevent Great Britain from reaping, to any considerable extent, the benefit and security she may derive from the commerce in sugar from these provinces, *viz.*

Freight, as at present charged, *viz.* £26 10 0 per ton.
And 20 per cent. for kintlage.... 5 6 0
———£31 16 0 or p. cwt. 31*s.* 9*d.* 6*dec.*

National customs, £37 16 3 per cent. on gross sales, which on the average sale of the sugar sent per Princess Amelia is near 40*s.* per cwt.*

It is within the compass of commercial management and national wisdom to remove both these impediments.

The ships at present employed in the Company's service are well calculated for the purposes of carrying home the valuable goods of India and China, and bringing out the Company's investments, treasure, troops, and military and naval stores: they are extremely well appointed for sea and also for defence, and none carry less than twenty-six guns and one hundred men. They perform but four voyages while in the Company's employ. In consequence of those, and other careful arrangements, insurance† upon them is at a lower rate than upon any other ships whatever. The difference of insurance calculated upon the valuable cargoes which the Company's ships, especially the Bengal ships, return with, in some measure counterbalances the present price at which the Company hire their ships.

The charges of ships returning from Madras and Bengal may be rated, one with another, from 12 to 13 lacks of Company's goods prime cost, or from £120,000 to £130,000 each.‡ The chartered burden of the Company's ships consigned to this presidency is, upon an average, about seven hundred and fifty tons, from which must be deducted the kintlage, about ninety-two tons, leaving the actual chartered burden 698 tons.

C.Rs. 10, or 20s. the cwt., is more than the average prime cost of Bengal sugar, such as has been hitherto sent home. Supposing a ship to be capable of carrying as much sugar as her nett chartered tonnage, the value of the cargo would not be £14,000, or about one-tenth of the cost of the usual cargo of a returning ship.

The Board submit so the Honourable Court of Directors, whether it be necessary to use ships of such expensive equipment for the transport of an article of so little comparative value, as the ships that are employed for the transport of the valuable articles of piece goods and raw-silk, and that it is not necessary

* Sum paid 41*s* 11*d.* 35*dec.* per cwt.

† The Company do not insure; but as the excellent appointment of their ships renders the risk less than the risk of other ships that resort to India, it is proper to give credit for this superiority. The Board refer to the difference of insurance, as the easiest and most definite mode of estimating the value of this credit.

‡ The Board do not notice the value of the privilege of the commanders and officers of the ships, nor that of the goods of individuals permitted to be occasionally sent home, as they have not the means of ascertaining it. These afford a considerable revenue to the nation by the customs they pay, and some resource to the Company by the following charges being rated on their gross sale—5 per cent. Company's duty and 2 per cent. warehouse room.

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necessary to have them in the least appointed for war. During the last, and in the commencement of the present century, it was requisite for the Company to employ ships of force in their commerce. The Dutch and English Companies were engaged in frequent hostile contention with each other; the seas were infested with pirates, both European and natives; and it was necessary to possess means of defence against the governments of the countries to which they traded. Now there is no hazard between England and Bengal, except in the event of an European war: and even then there is little danger between this river and the Island of St. Helena, from whence the sugar ships might proceed under convoy. After all, if a ship should fall into the hands of the enemy, the loss would not be heavy.

Whether large or small ships carry merchandize cheapest, the Board have no ready means of ascertaining. In England it may be easily determined; but, in respect to Bengal, there are circumstances in favour of small ships, that is to say, of ships of five hundred or not exceeding six hundred tons.

1st. The risk of the river is considerably less to ships of that size than to larger.

2d. They would take in their cargoes off the town, which would save the expense of sloop-hire, a considerable charge on so heavy and low-priced an article as sugar.

3d. The river in the neighbourhood of Calcutta is extremely healthy, but below is much otherwise.

The preservation of the lives of seamen is not only an act of humanity in itself, but an object of national policy.

The superiority of air in the neighbourhood of the town is not the sole cause of seamen being more healthy than below. Provisions and refreshments of every kind can be procured in the Calcutta markets, better and cheaper than down the river; the men are not liable to be exposed in open boats to the sun, rain and dews (all very destructive to Europeans); and the labour of loading can be assisted by natives hired for the purpose. The ships need, therefore, carry no more mariners than sufficient to navigate them.

Ships might be built solely for the sugar trade to Bengal. They should be in every respect strong, and well found, coppered, and constructed of a form to unite both burden and good going; but they need not carry guns for defence; two for signals would be sufficient.

The Board do not possess information accurately to ascertain the freight of a ship upon this plan; but they understand that they may be procured at rates considerably less than the ships proper for the valuable articles of piece-goods, raw-silk, and indigo.

The Board further observes, that many European commodities are now imported by foreigners; not only from the countries from which their ships immediately come, but from England, by a circuitous route, especially those manufactures in which the English excel. Those articles which England furnishes, and which from their nature cannot form an object for the Company, might be brought upon the privilege of the captains and officers of these low-freighted vessels, and this would materially tend to prevent the foreign trade.

From the article being charged with *customs* as a manufacture not otherwise enumerated, and from the application of the Honourable Court of Directors for its being rated at plantation duty, it would appear that it never was before imported into Great Britain from hence. Had the experiment been made previous to the English obtaining the influence they within these few years have obtained in Bengal, it would then have probably attracted the notice of the Legislature, and the article might have been discouraged by a special protecting duty, under the idea of encouraging the British West-India colonies; which then justly claimed a preference of support from the Legislature.

Britain has now required a most intimate connection with and interest in

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Bengal, and the Legislature and the Company have evidenced that the welfare and happiness of the natives are eminently deserving of attention.

Whether the possession Britain holds in the West-India Islands, or those she has here, are of the most importance to Britain, and that its industry ought not to be checked by laws in favour of other distant possessions, is an important consideration.

Those who possess estates in the West-India Islands will naturally take the alarm at any interference in a market which they have exclusively had possession of, and which affords them vast profits.

But, as has already been shewn, the produce of their principal commodity is not equal to the demand of the market. Hence the article has already risen to so high a price, even after making due allowance for the increased duty,* that many of the lower ranks of people in Britain must forego the use of it, and the refining, a very considerable branch of business, is much at a stand for want of material. Thus there follows a decrease of national revenue and manufacture, and an increase of domestic expense.

The great point, however, of consideration, as well in regard to the extension of national industry as to the strength and security of the British nation, is the employment of ships and seamen.

In this view it is that the West-Indies have probably been of the most importance to Great Britain; and, for this solid purpose, it was expedient for England to turn her attention to the New World, at the time the Spaniards and Portuguese were extending their power in the West-Indies and on the continent of America. The consequence has been, the possession of a chain of islands, cultivated and fed as already described, and yielding articles denied by nature to colder regions. The transport of their produce, and of the provisions necessary for them, employs a number of ships, and becomes a nursery of seamen seasoned to various climates of the navy.†

It

s. d.

* Duty, in 1790, was 12 6 per cwt. on West-India sugar.
Do. in 1791.. 2 8
Present duty .. 15 0

† From the question lately agitated in Parliament respecting the abolition of the slave trade, it appears that this trade destroys a number of seamen: as the Parliament have continued it, a deduction from the seamen raised by the West-India trade should be made, equal to the number destroyed by the slave trade. The Rev. Mr. Clarkson computes, on clear grounds, that near two thousand British seamen are annually lost by the slave trade.

The West-India trade is prejudicial in one respect, *viz.* that the islands do not afford sufficient fresh meat, new bread, or other proper refreshments, to seamen after a long voyage.

At Calcutta, seamen may every day be provided with fresh beef, mutton, poultry, vegetables, and new wheaten bread from the public markets, at very reasonable prices, cheaper than in the Thames.

It may be observed, that many seamen are lost in Bengal by the unhealthiness of the climate: and thence it may be inferred, that the Bengal trade will not prove a nursery for seamen. The Board anticipate the remark in order to reply to it.

It does sometimes happen that some of the Company's ships lose a number of people in this river; but many go away without loss, and with their crews in good health

The losses by sickness may be attributed chiefly (if not wholly) to the Company's ships not proceeding higher up this river than Diamond Harbour, which circumstance exposes their crews to sickness, from the following causes:

1st. The natural unhealthiness of the lower parts of the river during the months of July, August, September, and October, arising from the extensive woods and numerous salt muddy creeks on either shore. The natives of Calcutta who remain any time down the river at that season, experience the bad effects of the air, as well as Europeans.

2d. The seamen being much exposed in boats, either wholly open or covered only with a tarpaulin awning, and contracting disorder from the powerful effects of the sun, heavy rain, and dews, on their way up and down between the town and ships, a distance of near fifty miles.

3d. The getting on shore and proceeding from Diamond Harbour to the low houses of entertainment at Fultah. By this, besides the immediate ill effects of their excesses, they contract cold, rheumatism, agues, and fevers, from the sun, rains, and dews, and from the vapours of the muddy shores they pass by, and from frequently sleeping, when intoxicated, upon the damp ground, exposed to all weather, without a chance of any person interested in their welfare seeing and returning them.

4th. The great excesses they are prone to, when indulged with liberty of coming to town for three or four days, and the indifferent accommodations they have, the best being the godowns of the commanders' houses, which are generally damp, and during part of the year very unhealthy. Did the ships lie off the town, as the foreign ships do, the seamen might be allowed to go on shore at proper times. As soon as the sober had taken their recreations, and procured their refreshments, and the dissipated had spent their money, they would be glad immediately to go on board their ships as the most comfortable place they could find.

5th. The

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It is evident, that the greater distance of Bengal from Britain will render a greater number of ships and men requisite for transporting a given weight from hence than from the West-Indies. In proportion, then, as merchandize heretofore drawn exclusively from the West-Indies may be carried from hence, so much will the employment of shipping increase, and consequently the extension of all the numerous and important trades and manufactures concerned in the building and equipment of ships.

The consumption of sugar in Great Britain and Ireland is not the sole consideration. The drawing of merchants from other parts of Europe, to purchase for re-exportation, is a very material point.

What quantity of sugar this country is capable of exporting it is impossible to say, but certainly so much as to afford the means of greatly increasing the national shipping.

It finally cannot be too strongly considered, that should no alterations be made in respect to the custom and freight, and should Britain neglect the fair advantages which this new branch of trade promises to her, certain it is that foreign nations will benefit by her indifference. Ostenders, Danes, and other ships under foreign colours (experience shews no law can prevent* them), will carry sugar to Europe as well as to their own country.

The cheap rate at which they build their ships, their industry, perseverance, and commercial enterprize,† and the facility of intercourse from their speaking the same language, and from having the same manners with ourselves, give the Americans singular advantages for deeply entering into the carrying trade in sugar from Bengal to Europe. We cannot prevent this, but by being the merchants and carriers ourselves.

Supposing all other points equal, the Company can carry on the commerce with more advantage than any other persons. Their servants are (generally speaking) more experienced and conversant with the natives, especially in the interior parts of the country, than any other men in India. By being stationed at different subordinates, they provide the sugars on the spot where they grow, at the most favourable season of the year. The article will, therefore, be exported cheaper by the Company than any other merchants. The commerce which extends the navigation of the Company, benefits the revenues, the navigation, and the general welfare of the nation. The foregoing reasons resolve themselves into the following propositions:

1st. That Bengal is capable of supplying the European and North American markets with sugar to a considerable extent.

2d. That

5th. The refreshments proper after a long voyage, fresh bread and vegetables, are not easily procurable at Diamond Harbour, and the meat purchased there is of indifferent qdality.

What has been said of Diamond Harbour applies to Culpee and Ingelee.

All the above-mentioned prejudicial effects might be avoided by the ships coming up to town, the salubrity and advantages of which the Board have shewn in the body of the Minute. In brief, they say that, with the following easy precautions, a Bengal voyage will be as healthy to seamen as any voyage whatever to tropical climates. In Bengal, at one season, the nights are cold though the middle of the day is hot. Europeans often get ill at this time of the year, from being exposed in their sleep to the sharp air at night.

The ships should have good sea provisions, and a proper proportion of anti-scorbutics. The commanders should take care that their men clothe themselves sufficiently in high latitudes, and have changes of raiment in wet weather. The ships should run straight up to town, and the people be supplied with good fresh bread, meat, and vegetables. They should be sheltered with awnings, from sun and rain; they should sleep at night under cover, in cool or warm places, according to the season of the year; natives should be hired to work the tackles in loading and unloading the ships, and to perform the boat and shore duties. With these precautions, the Europeans will continue in health and strength.

To the above may be added, that in case (as must happen in the common chances of life) a man fall sick, he may immediately be carried to the Company's hospital, where proper care will be taken of him.

* The Canton (an American) sailed from Calcutta, in October 1790, with three hundred tons of sugar, which she carried direct to Philadelphia: the commander has returned lately to India, and says, he made a very large profit by the sugar. It is well known, he purchased this sugar in order to make up a cargo for his ship, as he was unable to procure freight for her.

† The following is an instance. A whaler sailed from Boston, in New England. She caught a cargo of fish in the South Seas, came to Bengal, and sold it (as is said) to advantage. In January 1792 she sailed with a cargo of sugar from hence.

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2d. That a commerce in sugar may be carried on between Bengal and Great Britain, highly beneficial to the general welfare and interests of both countries; particularly to the considerable extension of the British navigation, to the increase of the profits of the Company, and of the revenue and manufactures* of the nation, and to the relief of the domestic expenses of every individual in Great Britain who uses sugar.

3d. That encouragement to this commerce will contribute to draw merchants from various foreign countries to the Island of Great Britain, for the purpose of purchasing sugar for exportation, and will prevent many foreign countries being dependent for this article upon the French West-India Islands.

4th. That encouragement to this commerce will greatly promote the agriculture, revenue, and population of the provinces.

5th. That in order to give due encouragement to this commerce, the Legislature should afford relief to the excessive duty which sugar now pays on its importation into Great Britain, in consequence of its being rated as a manfactured article not otherwise enumerated.†

6th. That it does not seem necessary, for transport of an article of so low comparative value, to employ ships of an equipment so expensive, and force so considerable, as are proper to be employed for the transport of the Company's outward investment of British manufactures and metals, of troops, military and naval stores, and their homeward investment from India of raw-silk, piece-goods, and indigo; and that any relief the Company can obtain in respect to freight for sugar, will be greatly serviceable to their own and the general welfare.

7th. That in the event of encouragement not being given to this branch of commerce, by relieving it, in respect to duties and freight, foreign European nations and Americans will become the exporters of sugar from hence to various parts of Europe.

Agreed, That copy of the above Minute be laid before the Governor-General in Council with the following address:

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My Lord:—Having given very particular attention to the new article of commerce in sugar which has arisen between Bengal and Britain, and between Bengal and different parts of Europe and North America, we submit our deliberations thereupon to your Lordship in Council. You will observe from them, we are firmly convinced, that this commerce will be extremely beneficial to the agriculture, population, and revenues of these provinces; that encouragement will render it highly conducive to the prosperity of our immediate employers, and to the extension of the navigation, revenues, and general interests of the nation. Impressed with these ideas, we most earnestly entreat your Lordship in Council to recommend to the consideration of the Honourable the Court of Directors, the measure respecting freight and national duty, specially submitted in the propositions annexed to the Minute, as necessary for promoting objects of such eminent importance.

We are, with respect, &c.

In the above Minute, the Board have treated generally of the commerce in sugar. One point, however, relating to the Company's investment in the article, remains to be noticed, which as being a subject of detail, the Board think it better to speak of separately. It regards their incompetency, from want of knowledge, to judge sufficiently of the qualities of the different sugars provided for the Company, to discriminate their respective inherent properties, the different degrees of refinement, and whether the commodity be genuine or adulterated; all of them points useful to be well informed of. And the Board, conceiving that the attainment of this knowledge would be greatly facilitated by the appointment of some person experienced in the sugar business, to inspect and report to them upon the sugars that may be provided, they agree to address the Governor-General in Council on the subject as follows:

My Lord:

* Sugar refining, and all the trades connected therewith, ship-building, and all possessions and manufactures connected therewith, with the outfit of ships.

† £37. 16*s.* 3*d.* per cent., which amounts to about 40*s.* per cwt. on the sugar which was first imported. West-India sugar pays 15*s.* per cwt.

My Lord:—Under this day's date, we have laid before your Lordship some general considerations on the commerce in sugar. A material point regarding the Company's investment in this article, as it now stands, remains to be submitted to your Lordship, which, as being a matter of detail, we think it better to make the subject of a separate address. Board of Trade to Government, 7th Aug. 1792.

2. It respects our incompetency from want of knowledge to judge sufficiently of the qualities of the different sugars we provided, to discriminate the respective inherent properties, the different degrees of refinement, and whether the commodity be genuine or adulterated; all of them points evidently useful to be well informed of.

3. The attainment of this knowledge would be greatly facilitated, were some person experienced in the sugar business to inspect the sugar that may be provided, or that they may be referred to him, and to report upon them to us, in the same manner as the Inspector of Drugs reports upon the several commodities under that description referred to him. This report might be useful in guiding the opinion of the purchasers at the Company's sales in England, many of whom, it appears, purchase the sugar for domestic use in the state in which it is imported.

4. A person who has had experience as a planter in the West-Indies, and has a knowledge of the refining business in England, would, in this country, be more particularly useful than a person who has been merely a planter in the West-Indies, or merely a refiner in Europe.

5. Accordingly we submit to your Lordship the expediency of appointing some person, duly qualified, to inspect the deliveries of sugar, and to report upon them to us, and also to assist us with his opinion and advice in any matters respecting sugar which we may refer to him.

6. It might be further useful to us, if musters were to be sent us of each sort of sugar imported into England from the West-Indies, with an account specifying the different qualities of each, whether those qualities are best suited to the refiner's purposes, or for use in the state in which they are imported; the usual price of each in London; the usual price of each at the places of export in the island where it may be produced; the whole quantity imported into England; the quantity re-exported, shewing how much raw sugar and how much refined, and any other information which it might in England be thought useful to communicate here. And we take the liberty of requesting your Lordship will be pleased to recommend to the Hon. Court of Directors to send musters, as above described, with the information desired upon each. We are, with respect, &c.

The Board conceiving it would be satisfactory, and probably very useful to the Court of Directors to ascertain the number of begahs cultivated with the sugar-cane in the provinces of Bengal, Behar, Orissa, and Benares, the quantity of sugar annually produced and consumed therein, with the annual imports and exports, they agree to address the Governor-General in Council for obtaining this information, as follows:

My Lord:—We submit to your Lordship in Council, that information upon the undermentioned points respecting sugar will be satisfactory, and probably be very useful to the Hon. Court of Directors; and we request that, if your Lordship concurs with us in opinion, you will be pleased to direct the necessary reports to be made from the several Collectors of Revenue in Bengal, Behar, and Orissa, and from the Resident at Benares.

1. The number of begahs of sugar-cane in cultivation in their respective districts.

As the size of the begah is not the same in all parts of the country, each Collector should specify in covids, or preferably in English yards, the size of the begah in his district; or should any other be the common measure of the country, he should, in like manner, specify the size of that measure.

2. The quantity of sugar annually produced in his district; the quantity annually consumed within the district; the quantity exported, and whither exported.

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3. To state whether he would suggest any mode for extending the cultivation of sugar, or whether he would have it to suit itself gradually to the actual demand.

4. To point out any existing causes which may tend to discourage the cultivation of sugar.

We request that the quantities of sugar may be expressed in the Calcutta bazar maunds of eighty sicca weight to the seer.

From the Calcutta Custom-master:

1. The annual importation of sugar into Calcutta, from the inland provinces, for five years past.

2. The annual importation of sugar and sugar-candy into Calcutta, by sea, for five years past, and from what countries imported.

3. The quantity of sugar that may have been imported, by sea, in the country trade, within the same period; and more particularly to shew the quantities that may have been exported to the presidencies of Madras and Bombay, and their respective subordinates, since the Company's customs on Bengal articles have been abolished at those places.

4. To give a list of the foreign European and American ships that may have cleared out with sugar from this port, for these five years past, distinguishing each year, and give the best information he can of the quantity each ship may have exported; and that this report be brought down to the 31st July 1792.

5. To transmit a report every three months, commencing from the 1st instant, of all the ships which may clear out with sugar from this port, specifying for what place they clear out, and, if possible, what quantity of sugar they have on board.

From the Custom-master at Mangee:

1. The quantity of sugar that may have been imported from the Upper Provinces within these last five years, and also from 1st January 1792 to the 31st July, specifying the amount in maunds of 80 sicca weight to the seer.

2. To transmit at the end of every three months, commencing from the 1st instant, a report of the quantity of sugar imported into the provinces.

(Signed) JOHN HALDANE,
RD. KENNAWAY,
JOHN BEBB.

EXTRACT Board of Trade Consultations, 9th August 1792.

Government to the Board of Trade, 6th Aug. 1792.

Received a letter from the Sub-Secretary of the Government as follows:

Sir:—The Governor-General in Council having had before him the Board of Trade's letter of the 4th instant, I am directed to acquaint you, that orders have been given for advancing to the Commercial Resident at Commercolly the further sum of C.Rs. 10,000, as therein recommended.

I am, &c.

J. FOMBELLE, Sub-Sec.

Council Chamber, 6th of August 1792.

Resident of Commercolly to Board of Trade, 7th Aug. 1792.

Received the following letter from Commercolly:

Gentlemen:—I am this day honoured with your letter of the 3d instant, and shall without delay take the necessary measures for securing as much as possible of the sugar now growing, observing the caution of secrecy you recommend.

I shall have occasion immediately for a further advance of C.Rs. 15,000, in addition to the sum I applied for on the 31st ultimo; and as soon as I am able to ascertain the terms that will be accepted by the ryotts, and the quantity of sugar likely to be obtained, I shall transmit an account thereof as you desire.

I am, &c.

RICHARD BECHER, Resident.

Commercolly, 7th August 1792.

Agreed,

Agreed, that the Governor-General in Council be applied to for the advance desired by the Resident.

Bengal Board of Trade Consultations, 9th August.

EXTRACT Board of Trade Consultations, 11th August 1792.

Government to the Board of Trade, 6th August, 1792.

Received a letter and enclosure from the Secretary of the Government as follows:

(Secret Department.)—Sir:—I have orders from Government to request that you will lay before the Board of Trade the enclosed copy of a letter, dated the 2d March 1792, which has been received this morning from the Secretary to the Honourable Court of Directors, and to acquaint you that the Governor-General in Council wishes to be furnished with the information desired in it, as soon as it may be in the power of the Board of Trade to supply it.

I am, &c.

E. HAY, Sec. to the Government.

Council Chamber, 6th August 1792.

(Enclosure.)

Sir:—I am directed to desire that you will acquaint me, by an overland packet and the earliest sea conveyance, for the information of the Court of Directors, what quantity of sugar the Governor-General and Council can probably consign to England, between the months of November 1793 and March 1794, with the expected cost of the same in proportion to the different quantities they may be able to procure.

I am, &c.

East-India House, 2d March 1792. THOS. MORTON, Sec.

The Board observe, that it is not practicable for them to give at present the desired information, and they are sensible it must be difficult for the agents at the Sugar Aurungs to give it so early. They will, however, desire them to render it as early as possible; and the following letter is accordingly written to them:

To the Sugar Aurungs. (Secret.)

Board of Trade to the Sujar Aurungs, 11th August, 1792.

Sir:—We enclose copy of a letter by the Secretary of the Court of Directors to the Secretary of the Government, under date the 2d March last.

From this letter you will perceive the Honourable Court's anxiety to be informed of the quantity of sugar that may be consigned to them in the shipping season of 1793-4, on which head we wrote you under date the 3d instant. We must therefore repeat our request for your advising us, as early as possible, of the probable provision at your station.

We are, &c.

EXTRACT Board of Trade Consultations, 13th August 1792.

Bengal Board of Trade Consultations, 13th August.

Received a letter from the Sub-Secretary of the Government, as follows:

Sir:—I am directed to acquaint you, that the Governor-General in Council entirely approves of the instructions the Board of Trade have sent to the Sugar Aurungs.

I am, &c.

J. FOMBELLE, Sub-Sec.

Council Chamber, 13th August 1792.

EXTRACT Board of Trade Consultations, 20th August 1792.

Resident of Commercolly to the Board of Trade, 15th August, 1792.

Read the following letter from Commercolly:

Gentlemen:—I have the honour to send by this dawk two musters of sugar, made from the inferior sort of cane called calluah, as described in my address to you of the 5th instant.

If these samples meet your approbation, I request I may be immediately informed thereof, that I may take steps to secure the goor now in the Aurungs, as well as the crop on the ground, for which purposes an additional supply of cash will be required, not less than S.Rs. 20,000.

I have the honour to be, &e.

RICH. BECHER, Resident.

Commercolly, 15th August 1792.

The

Minute of the Board of Trade, 20th August, 1792.

The musters of sugar sent by the Resident of Commercolly appear to be of quality inferior to most of the sorts of the factory provision, but the wishes of the Hon. Court of Directors for gratifying the desire of the people of Great Britain for Bengal sugar, and for counteracting the illicit and foreign trade, are in themselves sufficient inducements to direct the Resident to procure sugar produced from the culluah sugar-cane, in as large quantities as he may be able, and in preference of the quality No. 1.

The Board are further induced by observing in the Resident's letter of the 5th instant, now before them though not yet recorded, that the culluah cane is cultivated upon low grounds, and will even thrive where the water may rise to the height of two or three feet. Much of Bengal consists of lands liable to be inundated; it may, therefore, be especially advisable to encourage the cultivation of this sort of cane, in order to secure a supply for the market in seasons whenthe upland cane may suffer by drought, as was the case last year.

Agreed, That the following letters be written to the Resident and to the Governor-General in Council.

Board of Trade to Commercolly, 20th August, 1792.

Sir:—Seeing the Court of Directors' urgency for supplies of sugar from this country, we think fit to desire you to procure the culluah sugar in as large quantities as you may be able, and preferably of the quality of the muster No. 1.

We shall obtain for you the advance of cash you desire.—The culluah sugar must be invoiced separately. We are, &c.

My Lord:—The Resident at Commercolly having desired a further advance of S.Rs. 20,000, on account of his sugar provision for the ensuing year, we request your Lordship will be pleased to cause the same to be issued to him immediately.

We are, &c.

Board of Trade to Commercolly and Patna, 20th August, 1792.

In pursuance of a resolution of the Government recorded on the general proceedings of this date, concerning the commission on sugar, the following letter is written to Commercolly and Patna:

Sir:—This serves to inform you, that the commission allowed the agents on the provision of sugar is five per cent.

We are, &c.

EXTRACT Board of Trade Consultations, 22d August, 1792.

Resident of Radnagore to Board of Trade, 17th August, 1792.

Received the following letter from Radnagore:

Gentlemen:—On receipt of your commands of the 3d instant, on the subject of the provision of sugar for the year 1793-4, and of the best mode of securing as much as possible from the crop now on the ground, I took such measures as I prudently could to learn the quantity of cane in the district, and the practicability of securing the produce, by early advances to the ryotts, or to such merchants as may have advanced to the ryotts.

To ascertain this with any accuracy, would take more time than the tenor of your commands of the 11th instant will allow me; I am, therefore, under the necessity of trusting to my general knowledge of the aurung, and the produce of last year compared with what may be expected in more favourable seasons.

The crop promises well hitherto. Should every thing continue favourable, and the cane yield well, 25,000 maunds of sugar may, I think, be produced; if otherwise, 15,000 maunds. I therefore beg leave to take the medium, and submit to the Board, as the probable provision of this aurung for the ensuing year, if nothing very untoward happens, 20,000 factory maunds, *viz.*

	Factory Maunds.	C.Rs. A. P.	C. Rs.
Doobarra, or 1st sort, ...	12,000	at 7 12 0 —	93,000
Ekbarra, or 2d sort, ...	5,000	at 6 12 0 —	33,750
Inferior, or 3d sort, ...	3,000	at 6 4 0 —	18,750
	20,000	7 4 4-80	1,45,500

The

Resident of Radnagore to Board of Trade, 17 Aug. 1792.

The above I consider as the probable produce of the district. Whether it may be in my power, in the present state of the markets in Europe and the consequent demand here, to secure by early advances the whole for the Hon. Company, I cannot presume to say: I should hope it will. I can only assure you, that no attention or exertion shall be wanting on my part. At the same time, Gentlemen, you must be sensible of the very great uncertainty attending every calculation of this sort, not founded on specific data, and liable to be affected by a thousand accidents. Should the quantity fall short, therefore, I shall trust to your candour and indulgence.

The mode I could wish to adopt for securing the sugar to the Hon. Company would be to make advances to the ryotts, through responsible people, for the jaggree, at a specific price. The produce of the cane being once secured, agreements may be easily made with the sugar-boilers.

The difficulty in this will be to find people of sufficient responsibility, and to fix the price of the jaggree. The ryotts or their factors will be very willing to receive advances now, and deliver the jaggree at the then bazar price, allowing an additional quantity in consideration of the advance. This is the custom: but, in the present circumstances, this would not suit; for supposing four-fifths of the produce to be advanced for by the Company, and purchasers in the season numerous, there is no saying to what price the small quantity of jaggree brought into the hautts might be run up. The only remedy to this is, to fix with the ryott on the best terms possible; and it is but reasonable to suppose, the certainty of an advantageous sale for the whole of his crop, and the convenience of the advance so long before-hand, would induce him readily to agree.

If the Board approve of my trying this mode, I could wish to begin immediately, and that you would be pleased to furnish me with S.Rs. 25,000 for the purpose. I shall derive great assistance from the out-factories; but it will also be necessary to employ two gomastahs in the southern, one in the western, and one in the northern parts of the district. No expense shall be incurred that can be avoided, and this will fall very light in proportion.

I am, &c.

Radnagore, 17th August, 1792. P. Touchet, Agent.

Agreed, That the Resident be written to in answer, as follows:

Board of Trade to Radnagore, 22 Aug. 1792.

Sir:—We have received your letter of the 17th instant on the subject of your sugar investment for next year.

We approve of the mode of provision you propose, and also of your engaging now, if possible, for the entire produce of the aurungs, and shall furnish you, as speedily as possible, with the advance of cash you desire.

We authorize your entertaining the four gomastahs you represent to be necessary for the business.

We are, &c.

Extract Board of Trade Consultations, 22d August 1792.

Letter from Resident of Soonamooky, 17 Aug. 1792.

Mr. Bebb lays before the Board the following extract of a letter to him from Mr. Cheap, the Commercial Resident at Soonamooky, dated 17th August 1792.

"For the provision of sugar next year I must be alert and early. I have "not altogether arranged my plan, and indeed stay for a little further infor- "mation, but I am so far clear, it will require an advance of cash directly; "and as I have encroached very much on my cloth-fund, I wish you would "send me up immediately S.Rs. 20,000. I mention this, because the order "I hold on Moorshedabad I shall not be able to realize, for I have no sepoys "to send for it. The Beerboom treasury is empty, nor will there be a rupee "before the pooneah is held, for which there are not yet any orders, and con- "sequently on it no dependence can be placed, and the want of money may "be at least an embarrassment, if not a great difficulty in securing the produce "of the canes. I fancy you may be able to send me the cash without waiting "for my public letter, which must be delayed."

Bengal Board of Trade Consultations, 22d August 1792.

Agreed, That application be made to Government for the several sums of money desired by Mr. Cheap and by the Resident at Radnagore.

EXTRACT Board of Trade Consultations 24th August, 1792.

Government to the Board of Trade, 24 Aug. 1792.

Received a letter from the Sub-Secretary of the Government, as follows:

Sir:—I am directed by the Governor-General in Council to acquaint you, that orders have been given for making the advances for Sugar recommended by the Board of Trade.

I am, &c.

J. FOMBELLE, Sub-Sec.

Council Chamber, 24th August 1792.

EXTRACT Board of Trade Consultations, 31st August 1792.

Letters to the Board of Trade.

That part of the Board's circular letter to the Sugar Agents of the 3d instant, which required information of their probable provision for the shipping season of 1793–4, having now been replied to by all, their letters are here entered; that of the Resident at Radnagore excepted, for which see p. 64. And a report is made to the Governor-General in Council thereupon, as under.

(From the Resident at Benares.)

From Benares. 17 Aug. 1792.

Gentlemen:—I have received your letter of the 3d instant, and in consequence of your directions therein contained, I shall endeavour by some means to make as large a provision as possible of sugar for the season of 1793–4: I shall also be careful that your orders on this head do not transpire. I have, as yet, only consulted with one intelligent person on the occasion; and if he has any interest in the business, it will be to keep it secret.

It is not the time at present to make advances, and I am pretty clear that none have been made for the cane now upon the ground, which will begin to be cut in January. It is in December when people, if they have arrived to secure by that mode, do it, and the terms upon which advances are made I have already mentioned to you. I therefore need now only observe, that the advantages likely to accrue from that mode, without any degree of influence, are trifling indeed, when compared with the risk attending it.

I am well aware of the eager speculation which exists, and is likely to continue, for the purchase of this article. The consequence has already been, its being adulterated; and I can well foresee, that, if some mode is not adopted, it will appear in future very different sugar from what has hitherto been produced in this zemindary.

By your letter I can easily perceive, that the wish of the Hon. Court of Directors is to secure as much as possible of the article, to relieve the wants of the mother country; and, probably, if all that was exported went to Great Britain, it would not be of any very material consequence whether it went upon their own account or that of individuals, freighted upon their ships. But as it is, I believe, the case, that a large quantity goes upon foreign ships, and will continue to go, it may be an object of consequence for Government to prevent, and it may certainly be done without injury to the natives of this country, upon some plan similar to the provision of opium, by advances being made for it upon fair terms, under the sanction of Government and countenance and support of the public Resident at Benares, otherwise I am clear there will be a considerable degree of risk attending it, which it is my duty to suggest: and unless something of the kind is adopted, or the duties of this zemindary or station of Manjey increased, so as to operate against the eager speculation which exists, the consequence will inevitably be, that the article will undergo considerable adulteration, and any quantity which the Hon. Company may procure will be very uncertain.

If I could make advances upon safe and fair terms, I think it very probable that 30,000 maunds of this country weight might be secured between the early part of February and middle of June. The sum required to be advanced would be nearly two-thirds of the cost, or say about B.S.Rs. 1,50,000, and I should stand in need of so much between the 1st of December and 1st of March,

March, in three equal payments, and the remainder not later than the 15th of April: or if equally convenient for the whole credit to be given at once upon the Resident at Benares, to be paid upon the 1st of December, or as I might want it, I should be upon a greater certainty. When I say that 30,000 maunds may be provided, I ground my opinion upon its being nearly about two-thirds of the probably annual produce, and one-third will remain for home consumption or for exportation inland. Letters to the Board of Trade.

Should Government judge it expedient to adopt either of the modes which I have suggested to secure the sugar for the Hon. Company, the sooner done the better, for although it is not customary to make advances thus early, yet if delayed, it may give room for a plea, though groundless, for people to urge, who might feel themselves disappointed; but if put into execution, it will fix me upon some certainty, and I may thereby be enabled to make some advances even before the month of December.

I am, &c.

Ghazeepore, 17th August 1792. JNO. LLOYD, Resident.

(From the Resident at Commercolly.)

Gentlemen:—I had the honour on the 17th instant, to receive your letter of the 11th, and lose no time in informing you, that the quantity of sugar likely to be procured in these aurungs for the shipping season of 1793-4 is from 8,000 to 10,000 maunds, if the musters accompanying my address of the 15th instant should be approved, if not, only half the quantity. The cost, according to present appearances, will be about eight rupees per maund of seventy-two sicca-weight. From Commercolly, 20 Aug. 1792.

I have, &c.

Commercolly, 20th August 1792. RICHARD BECHER, Resident.

(From the Resident at Patna.)

Gentlemen:—I was duly favoured with your letter of the 3d instant, and with the letter, with its enclosure, from your Secretary of the 11th instant, relative to the provision of sugar. From Patna, Aug. 1792.

I have the honour to inform you, that in a few days I expect some people from the country, whom I have deputed in secret to make the necessary inquiries, and from whose report I hope to be able to lay before the Board the estimate of the quantity and price of the sugar, as required by the Hon. the Court of Directors.

I am, &c.

E. E. POTE, Resident.

(From the Resident at Rungpore.)

Gentlemen:—I have been honoured with your letter, covering copy of a letter addressed to the Secretary of theGovernment from the Secretary to the Court of Directors on the subject of sugar. From Rungpore, 20 Aug. 1792.

The difficulties I have already experienced, and which are daily increasing, in the provision of the present year, are greatly discouraging to my hopes for the next. Though the cultivation of sugar-cane in these districts is more extensive than it has perhaps ever before been, and the crop at present has a very favourable appearance, yet the demand for the article having increased in an infinitely greater proportion, it may be expected that the present crop will be still less adequate to the supply of the markets than the late one. Hence it may not be unfair to conclude, that the quantity I may be able to procure of its produce, may fall short of my provision for the current year; but, on the other hand, the early notice now given of the Company's wishes to extend their purchases as far as possible in the ensuing season, will certainly enable me to carry those wishes into effect more fully and with more ease than could be done this season. This advantage will perhaps more than counterbalance the more numerous obstacles I shall have to contend with, in an extensive and increasing competition.

It cannot be expected, Gentlemen, that I can at this time form a correct judgment of the quantity of sugar I may be able to provide from the cane now on the ground, and I could have wished to be excused hazarding an opinion,

Letters to the Board of Trade.

From Rungpere, 20 Aug. 1792.

opinion, which in all probability will be fallacious, on the subject; but called upon as I now am, I dare not delay giving an opinion, however erroneous it may hereafter appear to be.

As such, therefore, I will venture to state my probable deliveries in the shipping season of 1793-4 at about 30,000 maunds of sugar. What price it may bear, it is impossible to form the most distant conjecture, but I greatly fear it will be extremely high.

The mode of provision I mean to adopt, as being clearly the most eligible in every point of view, so far as I may find it practicable, is that of advancing to the goladars or manufacturers while the cane is on the ground, the earlier the better; though I apprehend it will now be more difficult to effect this than it has heretofore been, as the goladars will be less in want of money, from the excessive profits most of them must have gained by the sale of their sugars this year. Where this mode cannot be adopted, that is, where the goladars may object to engage with me, it is my intention to make advances to the gutchuahs or goor-makers. I am aware that there may be some risk of balances in this mode, but I trust very trifling; and the advantages I expect to derive from it will, I doubt not, be greatly superior to such risk.

I shall immediately begin my arrangements with all possible caution. Though I am in no immediate want of money, yet I would recommend that I be furnished, as soon as possible, with an assignment for about Rs. 20,000 or 25,000; for as it is impossible to tell when I may find it necessary to advance to that amount, it may be dangerous to be unprovided on any pressing unexpected emergency.

I have, &c.

Rungpore, 20th August 1792. B. Mason, Resident.

(From the Resident at Santipore.)

From Santipore, 18 Aug. 1792.

Gentlemen:—I have had the honour to receive your two letters of the 3d and 11th instant, on the subject of sugar.

As the cultivation of sugar-cane is not extensive in this neighbourhood, and the manufacture of sugar has hitherto not been much attended to, I have been obliged to use more caution in my inquiries respecting the mode of provision most likely to secure the produce of the crops on the ground, than may perhaps be necessary in other parts of the country, where the cane is more generally grown.

From the information I have obtained, it appears that the sugar-makers with whom I made engagements this year cannot be depended on, as they have taken no steps yet to ensure a quantity of goor for next season; and I conceive that, if I was now to propose to them to enter into engagements for next year, that it would only tend to create alarm in them, and to enhance the price of the article.

The mode that seems to me at present best adapted to secure the produce of the ensuing crops, is advancing to the ryotts, to be paid back in goor at the proper season; and, with this view, I have sent a man to ascertain, as privately as he can, in the different villages, the quantity of land in cultivation and the rate at which it will be proper to advance per bigah. I hope to be able to write more explicitly to you on this subject soon, and to inform you of what money will be required. In the mean time, I shall borrow what may be immediately necessary from the funds for the cloth investment.

As the success of the crop still depends on the fall of rain between this and October, it is impossible for me to speak with certainty regarding the quantity of my provision or the price. I can only say, that I expect to procure six thousand maunds of cane-sugar; and from the present appearance, I conjecture that the price of chini will be from S.Rs. 7 to S.Rs. 7 8 per factory maund.

I shall take care to ensure the quantity of date-tree sugar ordered, and shall shortly write to you respecting it.

I have, &c.

Santipore, 18th August 1792. E. Fletcher, Resident.

(From

(From the Resident at Soonamooky.)

Letter to the Board of Trade.
FromSoonamooky, 25 August 1792.

Gentlemen:—I have been honoured with your letters of the 3d and 11th instant, relative to the provision of sugar for the ensuing investment.

From the knowledge the native sugar-boilers have of the people with whom advances for goor can with propriety be trusted, I would recommend employing them as an intermediate channel between the factory and the cultivators. But that I may be clearly understood, I mean, that advances should be given them to furnish the ryots, upon their engagements to deliver goor, which the sugar-boilers shall counter-engage to manufacture into sugar to be delivered for the Company, and that accounts be rendered me of the names, villages, pergunnahs, &c. from whom the goor is to be received, and if possible that the engagements be made on behalf of the factory; and this I will endeavour to accomplish, as an additional check that the produce may not be turned into another channel. Besides, it will give a great insight into the persons who may be trusted in future, and I think the experiment well worth the risk.

In regard to the quantity procurable, I have no grounds fairly to form an opinion; but with active attention and early measures, I trust, and am almost confident, that I may double the present year's provision: and therefore, although I do not pledge myself, yet I conceive that twenty thousand factory maunds will be got. With respect to price, I cannot at present say anything.

Much more cane was planted this year than ever has been yet; but the terrible scorching weather we experienced before the setting in of the rains, burnt up whole plantations, and many that I saw cultivated with canes are now rice fields. Those grounds which had the advantage of vicinity to water were saved, and altogether I do not think that there is less than there was last year.

That I may not be without the means of making advances, for it is now the proper period, I beg the favour of your ordering me an immediate supply of twenty thousand Sicca Rupees. Of course, only, if you think proper to adopt the idea which appears to me likely to answer the end proposed.

I am, &c.

Soorool, 25th August 1792. J. CHEAP, Resident.

(From the Board of Trade to the Governor-General in Council.)

Board of Trade to Governor-General in Council, 31 August 1792.

My Lord:—On the 11th instant we received the commands of your Lordship in Council of the 5th, communicating to us the desire of the Honourable Court of Directors to be informed of the quantity of sugar that will probably be consigned to England between the months of November 1793 and March 1794, with the expected cost of the same in proportion to the different quantities that might be procured.

2. It is with pleasure that we observe to your Lordship in Council, that previous to the receipt of the Honourable Court's orders we had given our attention to the subject, and had instructed the Commercial Agents at the Sugar Aurungs to procure as large a quantity as possible of sugar from the crops now upon the ground; and among other points, directed them to inform us, as early as they could, of the quantity they might be able to obtain, as will be shewn by the copy of the instructions which accompanies this for the information of the Honourable Court.

3. In consequence of the desire of the Honourable Court, we immediately repeated our directions to the Commercial Agents to advise us, as early as possible, of the probable provision at their respective stations. We were urged to this, from an anxiety to reply, as speedily as possible, to the Honourable Court; though we were sensible that, at so early a period of a crop liable to failure from unfavourable seasons, and under an eager competition for the article, it was not possible for their answers to be found with certainty.

4. In these ideas we have not been disappointed. Estimates of quantity are furnished; but merely as conjectural not as certain; as drawn forth by command of superiors, 'ere in the nature of things they could be sufficiently

Board of Trade to Governor-General in Council, 31 Aug. 1792.

prepared; as liable to disappointment should the crop prove scanty, and to difficulty from the eager speculations for Europe and America. In regard to price, some Residents speak with still more diffidence, some cannot speak at all; for the price must necessarily be influenced by what other persons are willing to give. Such estimates as are rendered, we state as follows:

	Quantity. Factory maunds.	*Price.*
Rungpore	30,000	Cannot conjecture price, but greatly fear it will be extremely high.
Radnagore, from 15,000 to 25,000 of sorts: assumes as probable	20,000	1,45,500
Soonamooky	20,000	Cannot say.
Commercolly, from 8000 to 10,000 maunds: medium	9,000	According to present appearance Rs. 8 per maund.
Santipore	6,000	Conjectures from S.Rs. 7 to 7 8 per factory maund.
Benares, 30,000 Benares maunds, or	41,250	Ben.Rs. 2,25,000
Maunds	126,250	
Add: Date-tree sugar, quantity limited by us.	3,000	
Maunds	129,250, or tons 4,308.	

The Resident at Patna has promised to report to us as soon as the inquiries he is making will enable him to do so; but as sugar from Behar has not been produced in sufficient quantities to have obtained a name in the Calcutta market, we do not look for much from thence.

5. We think it proper to mention in this place, for the Honourable Court's information, that Mr. Paterson, in May last, applied to be put in possession of 3,000 biggas of land in Beerbhoom; but the Government declined a compliance with his request, as on reference to the Collector it did not appear that he had settled with the proprietor: since which time we have not heard from him. We have recently written to him, inquiring whether he has obtained any ground; and if not, whether he sees any probability of procuring any, and when he thinks he may be able to deliver to us sugar upon his contract.

6. With regard to price, we must observe that, when any of the Residents mention any, it is extravagantly high: and this must be expected; for it is known to us that S.Rs. 12 per bazar maund is now demanded in Calcutta for Benares sugar, of a quality usually sold from S.Rs. 6 8 to S.Rs. 7 8, and which, at this time last year, might have been bought at that price.

7. It is proper we inform the Honourable Court, that we shall rather think it fortunate if the statements of the Residents be realized, than expect they will be exceeded. We have no reason to conclude that there has been any considerable increase of cultivation in the planting of the crop now upon the ground, for the price did not become high in Calcutta till October last, and did not during the season of planting rise to S.Rs. 8. We know that, during the late war with Holland, which prevented the communication of Madras and Bombay with Batavia, the price at Calcutta was S.Rs. 8 8 6 per bazar maund, yet no increase of cultivation was then heard of: it is, therefore, reasonable to infer, that the lesser price of last year, though high, must have been considered by the natives as casual, and that no increase of culture was occasioned thereby. Some increase, the Resident of Soonamooky informs us, did take place in Beerbhoom; but that it was more than counterbalanced by the violent heats in May and June last, which destroyed all the fields of cane distinct from water; and some increase, we understand from the verbal communication of one of the judges who went that circuit, was made in Burdwan, and this he attributed to the Company purchasing sugar in the interior of the country, a circumstance which immediately fell under the observation of the husbandman, and gave him encouragement and confidence for the future disposal of his crop.

8. We have been particular in stating the above, because we see by the public prints, that persons who have gone from hence, and persons who have written

written from hence, have caused the public in England to expect that the Company can immediately export from Bengal sugar to a quantity that is not procurable in it at present.* We are most desirous of rendering sugar a staple article of export to Britain, but a great increase of cultivation necessarily requires much time.† So little has the country hitherto yielded beyond what its consumption requires, that making due allowance for the late scanty crop, we have no hesitation in saying, that the whole which is now exported by Europeans and Americans, and also that almost the whole of what will be exported next year, is so much drawn from the use of the natives, and that they sensibly feel the deprivation.

Board of Trade to Governor-General in Council, 31 Aug. 1792.

9. Lest from the foregoing exposition any lukewarmness should be attributed to us by any sanguine persons, we beg leave to state, that the experiments we made in the shipping seasons 1790-1 and 1791-2, and our proceedings, bear ample testimony of our earnest desire to promote the trade in sugar; and we think ourselves warranted in pronouncing that, allowing the time necessary for increase of produce, these provinces are certainly capable of producing more sugar than all the British and French West-India Islands.

10. As the inquiry of the Honourable Court must regard the tonnage they mean to engage for, we beg leave to set forth, that the estimate of provision of sugar we have submitted enables us to say, that if the Honourable Court will send out fifteen ships on the plan we proposed on the 20th April last, (*viz.* eight ships of the present construction and seven smaller), we have no doubt that, supposing a continuance of peace and usual seasons, they may be returned during the season of 1793-4.

11. Whatever measure may be adopted with respect to ships, we beg your Lordship in Council will request the Honourable Court to send the earliest advice thereof.

We are, &c.

31st August 1792.

EXTRACT Letter from Board of Trade, 4th September 1792.

Par. 3. Ten statements, relative to the different sorts of sugar laden, are herewith sent. In consequence of the Court of Directors' orders of 14th December 1791, we directed the sugar to be laden in chests; but we are sorry to observe, that this mode of package occasions a very heavy additional expense, amounting to 1*s.* $7\frac{3}{4}$*d.* per cwt. And as it is essential to the success of the commerce, that the charges of package on so low priced an article should be very moderate, we request the Honourable Court will direct their officers to be attentive to compare the difference of weight between the sugar carried home in chests and that carried home in bags, and to ascertain, if possible, the cause to which it may be attributed, whether to pilferage, to the sugar having run, or to exhalation in the ship's hold of the humidity it may contain. We find that a quantity which came from Benares last year and remained in the Export Warehouse, gained considerably in weight, which we attribute to its having imbibed damp in the warehouse. The inquiries we have made of the merchants and mariners who have been concerned in exporting sugar to different parts of India, shew that the loss of weight is rather less than three per cent.: and so far as we are competent to form an opinion, we are inclined to think this difference is more owing to the exhalation in the ship's hold of the humidity the sugar may have imbibed between the time of its having been delivered by the manufacturer and of its being shipped, than to any actual decrease in the material. We speak of the chenee and superior kinds of sugar, as the lower kinds may probably run, and thereby lose part of their weight. Copies of the inquiries above-mentioned, and of the answers received, we transmit herewith.

Letter from Board of Trade, 4 Sept. 1792.

4. We

* One person wrote in August 1791: "Sufficient (sugar) may be procured to load home twenty ships this year; and with proper encouragement two hundred next;" *i. e.* in present season of shipping, 1792-3. Impossible. The writer, whoever he was, must have written from a sanguine heated imagination, not from inquiry or sound knowledge.

† From the first breaking up the ground for the cane till it be cleared, and the sugar made, is in general a period of fifteen or sixteen months.

Letter from Board of Trade, 4 Sept. 1792.

4. We have sent a small box of the different sorts of the provision of this year consigned by this ship, in order that the Honourable Court may immediately inspect them before the cargo be landed. The musters have been fairly drawn from the mass when shipped; but as the cargo must be stowed in the hold, where the heat and closeness will be greater than in the gun-room or place where this box will probably be put, it is possible there will be some difference of appearance between the mass and the correspondent musters. If so, we should be glad the circumstance be noticed to us: and, for this reason, we would recommend that these musters be not exhibited as musters by which the mass is to be delivered. Some of the sorts not having been before sent to Europe, we request that the opinion of professional men on each of these sorts, of which the particulars will be found in the enclosed paper, may be taken and transmitted to us.

5. In elucidation of what we have said on the subject of Bengal sugar-mills in our Minutes on sugar, we transmit two paintings; one, the representation of a hand-mill and boiling place; the other, of the cattle-mill used in Bengal for expressing the juice from the cane.*

7. In our address to your Lordship in the Secret Department, under date the 29th May, we stated the quantities of sugar which the agents expected to be able to provide in the course of the present year, in addition to their existing allotments, so far as the same could then be ascertained. Having recently obtained further Reports, which, from being framed so much later in the year, may be better relied on, and the reason for keeping them secret being now at an end, we submit the following statements of the entire quantity which we hope to consign to Europe in the present season 1792-3, *viz.*

	Factory Maunds.			C.Rupees.
From Benares.....	7,515	9	...	45,937
Radnagore	10,496	22	...	72,708
Rungpore	18,000	0	...	130,473
Santipore	2,997	18	...	22,650
Soonamooky.....	10,160	0	...	76,240
	49,169	9		348,008
Remaining in the Warehouse from last season	1,211	26	...	8,954
Purchases in Calcutta for samples	406	6	...	2,403
Total Factory Maunds...	50,787	1	C.Rs.	3,59,365, or tons 1,692.

Bengal Board of Trade Consultations, 4 Sept. 1792.

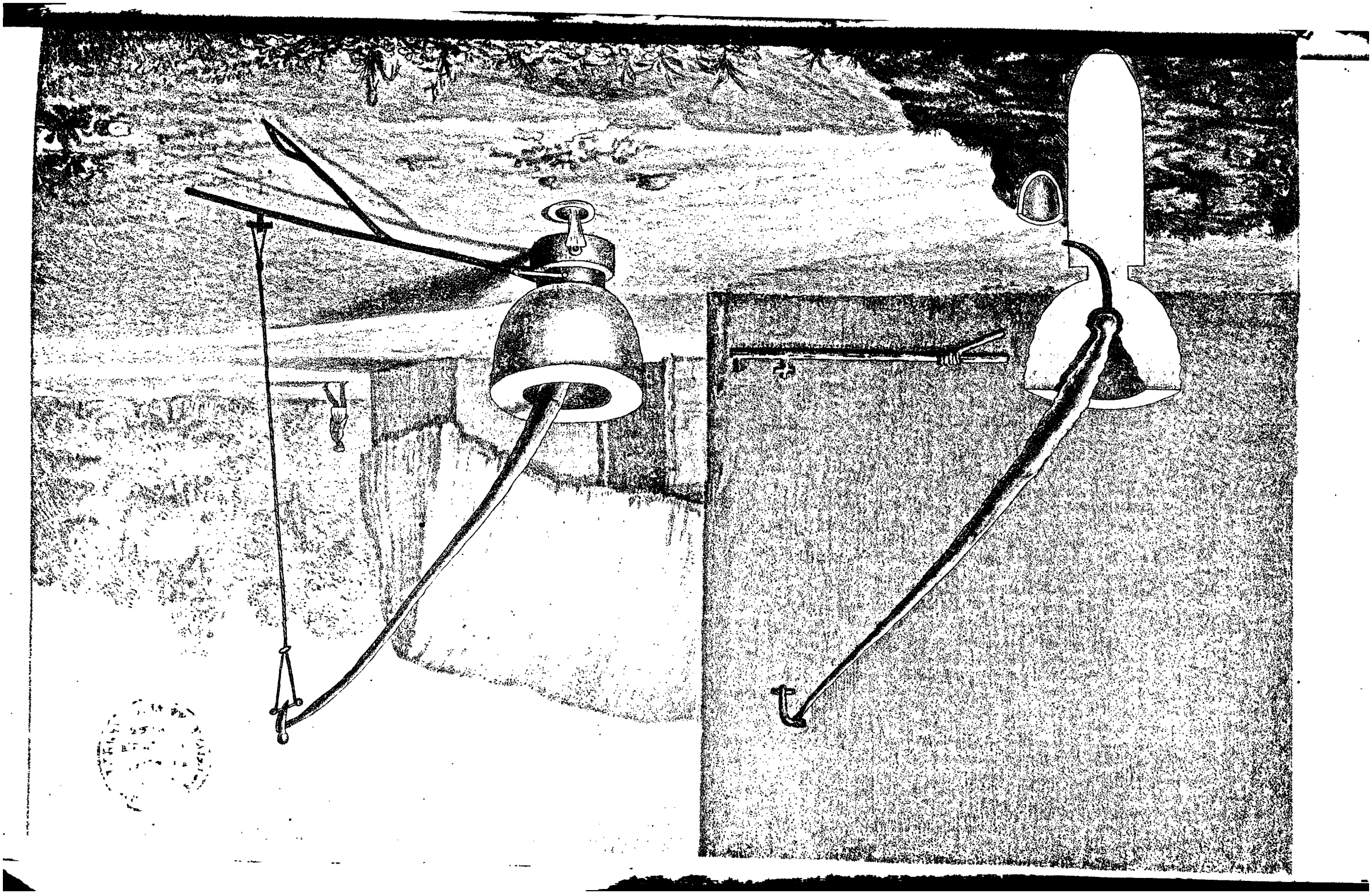
RETURNS having been received FROM ALL THE AGENTS to the BOARD'S CIRCULAR ORDERS of the 13th December 1791, CONCERNING SUGAR, and the same having been under the consideration of the Board, they are now brought upon Record, with a MINUTE which has been prepared thereupon.

(From the Resident at Benares, 8th January 1792.)

Letter from Benares, 8 Jan. 1792.

Gentlemen:—I have received your letter of the 13th ultimo, enclosing copy of a letter written to one of your Residents in Bengal, also a muster of some refined sugar, and an assignment on the Benares treasury for C.Rs. 15,000, allotted for the provision of sugar for the year 1792. The particulars which you have required from your Residents in Bengal I will endeavour to collect, so as to transmit early enough to be forwarded to England upon one of the latter ships of the season; but it will certainly want time to obtain the information with any degree of accuracy. All that I can observe at present is, that I believe advances are not commonly

* *The sugar mills here noticed are engraved, and bound up in this collection.*



monly made for sugar in this neighbourhood while the cane is on the ground. The people who cultivate it do also extract the juice from it, and in that state dispose of it to the sugar-boilers. It is then that advances are made, and sometimes the merchant may have an advantage of four or five per cent. in doing it, at others not any; for it must depend upon the market at the time the new sugar comes in, *viz.* from the early time in February to beginning of May: and then, should there be a great call for it, the merchant will have secured his interest by making his advances in time, but, on the other hand, should there be but little call for it, and the price consequently low, he will not have been a gainer: for which reason, and as I believe there is not at any time very great variation in price, it is generally esteemed the most prudent plan, and followed as such, to be ready on the spot with the cash to purchase when it comes to market, and thereby avoid the risk of advance to sugar-boilers, which without influence and a thorough knowledge of the people must be very considerable.

Bengal Board of Trade Consultations, 4th Sept. 1792.

I have sent a gomastah to Russua, thirteen coss from hence, where the best sugar is produced, and I have also given him one thousand rupees to begin with. He is a man that I have had dealings with for three years, therefore from experience think I may trust him: and as at present I have only instructed him to secure, by advances or otherwise, 1,500 maunds of the first kind of sugar, I cannot give you further information about it until I hear from him; and I can only add that I am, in all cases, very cautious about making advances, more particularly so when it must be done at a distance of some miles.

I am, &c.

Ghazepore, 8th January, 1792. JOHN LLOYD, Resident.

(From the Resident at Benares, 30th January 1792.)

Gentlemen:—I wrote to you on the 8th instant, which was in part a reply to your letter of the 13th December. I now come to give you such further information as I have been able to obtain, respecting the process used by the natives in boiling and purifying the juice after it is pressed from the sugar-cane.

Letter from Benares, 30th Jan. 1792.

2. When the juice is extracted from the cane, the natives boil it in flat iron pans, which hold about three maunds by measure, and continue stirring and skimming the liquor with wooden ladles, in proportion to the purity required, and to make it very pure they add some milk. When the grain appears formed, the pan is taken from the fire and placed on the ground, where the liquor is again well stirred and agitated with a wooden ladle, till it cools and forms into the coarse sugar called bhulee, which they scrape together with an iron scraper, and lay it out on cane leaves, cloth, &c. for use; and from this bhulee the sugar-boilers (named Randoo or Keulwase in this zemindarry), prepare, by several clarifications and frequent treading in the sun, the fine sugar known by the name of chenee: that is to say, from four maunds of bhulee they make one maund of chenee first sort (and rather more of the second), two and a half maunds of molasses, and about half a maund is lost. When the natives wish to make from the cane-juice what they call goor, they strain the juice into earthen vessels in which it is collected through the day, and in the evening they place it over the fire for a little, to preserve the juice in that state to mix with the night's produce treated in the same manner. It is then slowly boiled in a deep iron vessel, and some of the simmered juice is gradually added (the whole being well mixed and skimmed when boiling), till the grain be properly formed. While rather liquid it is poured into earthen vessels sunk into the ground, where it is well agitated with a wooden stick and suffered to cool. To clarify the goor, the natives use the juice of a plant called doola, in the way milk is sometimes used for the bhulee mentioned above. From the goor, a kind of coarse sugar (much purer than the bhulee and inferior to the chenee) named shukeer or khand, is thus made. The goor is put into a coarse sheet, and there squeezed or pressed till the molasses all drips from it: the khand is then exposed to the sun, and set aside for use. From three maunds of goor one and a half to two maunds of khand are produced, the rest is clean molasses.

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3. A rich soil well ploughed, well manured, &c. answers for the sugar-cane, and of several sorts, *viz.* the punsaree, reonda, mungoo, nivar, kiwahee, &c., the two first are the most productive, and in greatest repute among the ryotts. The stem of the punsaree sugar-cane tapers from below upwards, and the reonda tapers from above downwards, with a reddish colour for four or five inches from the top: the rest of the stem is like the punsaree, white. The plant for seed is thus prepared. It is cut into pieces of one cubit long, and tied up in bundles of ten such pieces, each bundle being called one dohra, and twenty dohras form one bundha, forty of which last are required to plant one begha of land. From one cane, three or four cubit pieces above described are in general taken, as long canes are not preferred for seed. Three or four waterings, and in droughts six or seven, may be necessary for lands planted with canes. One begha should produce from eight to fourteen maunds of bhulee, and canes are more profitable than barley, wheat, &c., but less so than cotton, which requires less labour and expense in every respect than cane. The rent of canes is from three to eight rupees per begha paid every second or productive year, or from one and a half to four rupees if paid yearly, as the cane in some measure require, or rather encroach on, two seasons.

4. The cane, like all other products, may be liable to discouragement. I really do not know that it meets with any. It must depend upon circumstances; and under a mild government, the farmers will, of course, find an advantage in cultivating it, the same as they may in cotton, grain, tobacco, or any thing else; for they are all, I believe, equally alike subject to discouragement.

I am, &c.

Ghazeepore, 30th January 1792. JOHN LLOYD, Resident.

(From the Agent at Radnagore, 14th January 1792.

From Radnagore. 14 Jan. 1792.

Gentlemen:—I have been duly favoured with your letter of the 13th ultimo, allotting C.Rs. 50,000 to be invested in sugar at this station for the year 1792.

2. The Board may rely on my utmost endeavours to procure the amount in good sugar, and on as reasonable terms as possible.

3. Owing to the want of rain, the present year promises to be unfavourable. The quantity of jaggree is expected to be less, and the demand greater than usual; and before the month of May it will, I fear, in this part of the country, be very dear: but from having received your orders and the advances in good time, I am not without hopes of procuring the quantity required, and on moderate terms.

4. The mode of provision I should prefer would be, to make specific agreements with the myrahs and halwyes, or sugar-boilers of responsibility, for sugar to be delivered, according to a certain muster, at a fixed price. I have had some of the principal of these men with me, but we cannot agree about the prices. They want for doobarra or twice-boiled sugar, of good quality, five sicca rupees the maund of sixty-two sicca weight, whereas I propose and think I ought to get it for five sicca rupees per maund of eighty sicca weight. If the year was at all favourable, they acknowledge this would be a fair price, but they seem apprehensive of making any agreements. I have proposed conditional ones to them (depending upon the price jaggree shall bear), up to six sicca rupees the maund of eighty sicca weight, beyond which I shall not go without the express authority of the Board. The ryotts are now beginning to cut the cane, and in some of the hauts new jaggree has been brought, but being in small quantities, it is yet very dear. The agreements with the myrahs and halwyes (or sugar-boilers) should be concluded by the 15th February; if not, I shall send the people to purchase the jaggree, and boil the sugar at the most convenient places: but, I own, I should prefer engaging for the sugar with those whose profession it is to make it. The advancing to the ryotts for the produce of their canes, would always be attended with risque and uncertainty, and for the present year it is not practicable. In the course of a month or six weeks I shall be able to inform you, with more exactness, what quantity I may be able to procure, and on what terms.

5. The

Bengal Board of Trade Consultations, 4th Sept. 1792. From Radnagore.

5. The cultivation of the sugar-cane is easy, the produce tolerably certain to the ryot, and the comfort and health arising to a poor family from a small patch of sugar-cane (exclusive of what the jaggree may sell for), can only be known to such as may have observed them all in the time of cutting the cane, and the difference of their looks before the crops begin, and a month or six weeks after. I have been told that the same benefit is experienced by the negroes in the West-Indies; but however this may be, there can be no doubt of the advantage of encouraging the cultivation, which in this country will always increase in proportion to the demand. It is not attended with the heavy expense that mulberry is, the return to the ryot is more quick, nor is the land, in general, liable to an increase of rent. In some villages an assessment of six annas the bega is levied, under the name of ook manghun, or sugar-cane; but this, from the term, seems to depend on the consent of of the ryot, and from such information as I have been able to obtain, is neither general nor authorized.

6. There are two sorts of sugar-cane in this district. One, which is called the white cane, the juice from which is more easily expressed, is in greater abundance; and the jaggree made from which is more in demand among the natives for their sweatmeats and their own use, than

7. The purple or dark coloured cane, which is harder, yields less juice and with less ease, but the quality of the juice is richer and sweeter: it yields more sugar and of a better or harder grain. It is from the jaggree of this cane that they make sugar here and at Beerbhoom. The white cane of this country I take to be the same as that of Benares and Gazepore; it yields a white sugar, but of a weak grain. This cane appears to be more profitable for jaggree, but the purple cane for sugar.

8. The soil best adapted for the growth of the cane is what is here called the soil of two qualities, or a mixture of rich clay and sand, which is, I believe, known in England by the name of a light brick mould.

9. When the cane is cut, they take off the tops and place them upright in a bed of mud for thirty or forty days, and cover them with leaves or with straw; they then take them up, strip off the leaves, and cut them to pieces of four to six inches, so that there are no less than two or more than four knots in each. These they keep for ten or fifteen days in a bed prepared for the purpose, and then plant them out by a line, from one and a half to two feet distant, putting two or three plants together. From 7,500 to 10,240 are in general required for one bigga.

10. I reckon that jaggree to the amount of Sa.Rs. 2,50,000 is produced in these districts, two-fifths of which are exported, and three-fifths consumed in the district. Should the demand increase, I have little doubt it may be doubled. The great difficulty will be to increase the purple cane, the white being in most general use.

11. For the investment of the present year, the making advances to the ryots who plant the cane is out of the question: they have been made by the pykars of the sugar-boilers, or the jaggree purchased for ready money. As it is brought into the several hauts by the pykars, the second is the most secure and eligible mode, and which I hope to effect; at least for a great part of the provision, if I cannot for the whole. I must endeavour to buy the jaggree and make it in the most secure way I can; but from the disappointments I experienced from the floods of last year, I feel this latter mode to be liable to a risque I could wish to avoid.

12. The process of boiling and purifying the juice for jaggree, as practised by the natives, is very simple. Their mill for expressing the juice is in this part of the country made of two pieces of round wood placed horizontally and turned by a man at each end. The juice is received in a pan, from which it is taken up and strained, and put in the boilers, which consist of kedgeree pots placed at length from six to sixteen to one fire. The juice as it boils is shifted from one to the other, till it is boiled sufficiently for jaggree; they then put it into a jar, reserving a little which they boil higher and afterwards mix with it. It stays in the jar from twenty-four to forty-eight hours, and is then put into the pots for sale. Some of them, when they want to make very good jaggree, throw

Bengal Board of Trade Consultations, 4th Sept. 1792.

throw into the juice, when boiling, a little water in which plantain ashes have been infused.

From Radnagore,

13. To make sugar, the jaggree is thrown into the pan and allowed to boil up. It is purified, in general, by milk and water only, which is mixed in a kedgeree pot by the myrah, who has a stick with a piece of rag at the end of it, which he dips in the milk and water and then draws over the sugar as it boils: this he is constantly doing, and in boiling one maund of jaggree, two seers of milk and six of water are generally used. When the sugar is sufficiently clarified, it passes on to the last pan: in this milk and water is not used. When it is sufficiently boiled they fill the pots one-third; and what appears to me remarkable is, they think it absolutely necessary to fill the pots with three different boilings and of three different proofs, the first they put in being the highest. The pots being filled, they keep them covered up for eight days, and then take out the stopper for the syrup to drain, and cover the tops with wet grass which they change daily, and scrape off such sugar as may have granulated, which they dry in the sun, and it is ekbarra or brown sugar of one boiling.

14. The use of alkalies is not unknown to them: they often throw in a little lime, or plantain ash-water, when the juice appears weak or backward to granulate.

15. The doobarra sugar is made from the ekbarra sugar, exactly as that is made from the jaggree, only in this process they never use any thing but milk and water.

16. If the sugar should become an article of purchase for the Company, it would be of great use to teach the natives to make it without the previous process of boiling the juice into jaggree, and also to preserve their sugar-canes after cutting, as they do in the West-Indies, (and indeed in some parts of this country), for in very rich ground it is possible they might have two crops annually, and at any rate the expense of planting would be saved; and it is, I believe, generally reckoned, that the canes are in greater perfection, and yield a better sugar the second year after planting than the first.

17. A statement of the usual produce per bega of sugar-cane, and of the profit attending the cultivation, compared with grain, cotton, mulberry, or the other staple productions of the country, shall be forwarded, as soon as the several points can be ascertained with any degree of exactness.

I am, &c.

Radnagore, 14th January 1792. P. Touchet, Agent.

Statement of the Expense, Rent, and Produce per Bega, of the Cultivation of Sugar in the Radnagore Aurung.

	Average Rent per Bega.	Expense of Cultivation and preparing the Produce.	Average Produce of eighty sicca weight to the Seer.	Average Value of Produce.	Amount.	Profit to the Cultivator.
	O S. Rupees.	S. Rupees.	Maunds.	S.R. A.	S.Rs. A.	S Rs. A.
Sugar Cane . . .	3	15	19 of Jaggree	at 1 12	33 4	15 4

(Errors excepted) P. Touchet, Agent.

Radnapore, 7th August 1792.

(From the Resident at Rungpore, 13th January 1792.)

From Rungpore, 13 Jan. 1792.

Gentlemen:—I have been honoured by the receipt of your letter of the 13th ultimo on the subject of sugar.

2. Imagining that a full and connected detail of the business as carried on by the natives in these districts, from the first planting the cane to the last operation in the manufacture of the finest sugar, would be more satisfactory than detached information on particular parts, and hoping that I might, ere now, have been able to furnish you with such a detail, I have been induced thus long to delay my reply; but finding that some of the points require more time than I expected, I now have the honour to lay before you such information as I have been able to gain, from personal examination as well as from the

Bengal Board of Trade Consultations, 4 Sept. 1792.

the report of intelligent natives engaged in the business, on those points which you more particularly require an early answer to.

3. First, as to the process used by the natives in boiling and purifying the juice after it is pressed from the cane, and the varions degrees of purity or refinement to which they carry the process.

4. The juice running from the mill into a large earthen vessel sunk in the ground at the foot thereof, is thence taken out by gurrahs (more commonly known among Europeans by the name of cudgeree pots), and conveyed to a large surrai, or iron boiler over a furnace, in a house or shed adjoining to the mill. Here the plain juice is boiled, and the thick scum which keeps rising to the top is taken off, and when brought to a sufficient degree of purity and consistency it is taken out of the boiler. After this first boiling it assumes the denomination of ghoor (usually by Europeans called jaggry), which is of two kinds, namely, danahdar ghoor, from which the sugars are made, and puttelee ghoor, used by the natives in its rough state for various purposes. Though these two sorts of ghoor differ a good deal in their appearance, I cannot learn that there is any other difference in the preparation of them, than that the danahdar ghoor, when taken from the first boiler, is put into large earthen vessels or jars. When the jars are filled, a small quantity of ghoor taken therefrom is rubbed well round the edges of the jar and laid over the surface, to promote the formation of the danah or grain; and the puttelee ghoor is cast in a form or mould cut in the ground, in the shape generally of a long wedge, and lined with plantain leaves, where it cools and becomes a hard mass. There is likewise some difference in the growth of the cane from which these two sorts of ghoor are made; of which more when I come to speak of the cultivation of the cane. Thus far the process is carried on by the cultivators of the cane, who are called gutchwahs, from gautch (literally tree), the name given to the mill in which the cane is pressed.

5. The danahdar ghoor is next taken by the golahdars or sugar-boilers, who first put it into a strong close-wove hempen bag, bound round with cords tightened by large levers of bamboo. Thus bound it remains one day. The thin syrup or treacle dripping from the bag is received in a vessel below. The next day the cords are again tightened, and thus it remains two days more. By that time the syrup being expressed, the thick ghoor remaining in the bag is carried to a large iron cauldron, where it is boiled up with a mixture of water, milk, chunam, and kehar (the leys of plantain-tree ashes.) A small portion of this mixture is from time to time thrown in, to promote the throwing up the scum, which is removed by a skimmer as it rises. When sufficiently boiled and purged in this cauldron, it is taken out in its liquid state, strained through a cloth, and boiled a second time in another cauldron. Here no further mixture or skimming is necessary; but when brought to a proper degree of consistency by the simple boiling, the hot liquor is taken out of the cauldron by degrees, with a kind of ladle, and thrown into large broad-mouthed earthen vessels, a little from each ladle-full successively into each of the vessels, till they be filled and the cauldron empted. These vessels (called coondahs) have a small aperture in the bottom, which is filled at the time of putting in the liquor from the cauldron. It is next beat and stirred about with sticks, till it acquires a sort of crust or grain; it is then left to settle for the remainder of the day and night. The succeeding day and night the vessels are put by on the ground in a cool shady place, and the third day are conveyed to another house, where they are placed on a mutchaun or platform of bamboos. The holes being here opened, the syrup descending, passes through the holes at the bottom, and is received in pans placed beneath. For the remainder of this day and night it is left to drain. The ensuing, or fourth day, a coat of wet weeds is laid over the surfaces of the vessels, which is allowed to remain on for about fourteen or fifteen days; and being then taken off, the sugar at the top of the vessels is scraped off with a knife, so far as it may be properly cleansed and whitened by the moisture from the weeds.* This first scraping

* This is a particular weed that grows in jeels, tanks, and rivers, and is called in this part of the country kehar or kehar pahtah: it has other names in other parts. I do not exactly know the properties of this weed, but am told it abounds in alkali; which I suppose contributes to the purifying

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is the finest and best sugar manufactured, and is called cheenee owal khàt. Another coat, as before, is then put over what remains in the vessels, and, being removed after about eight days, the upper sugar is in like manner scraped off. The remainder is again covered and scraped off after five or six days. This third scraping generally concludes the process, though it is often necessary to give it a fourth coat. Thus the sugar of the first khat or scraping is the highest degree of refinement to which the process is carried by the natives; as the sugar-candy, which is manufactured in small quantities, and principally, if not wholly, for the consumption of the Europeans resident in the country, does not, I conceive, come within the scope of your inquiries. These sugars made from the original ghoor are denominated the first sort, of which there are three and sometimes four different khats or scrapings, after purging by the coats of the kehár pattah.

6. Sugars of an inferior sort are made by mixing equal quantities of dannahdar ghoor and cootrah ghoor (*i. e.* the syrup that draws out of the vessels after the second and last boiling) and the different boilings: this undergoes the same process as the finer sugars in respect to boiling, &c. A third sort of sugar is made by a commixture of one-fourth of dannahdar ghoor and three-fourths of the cootrah or drainings of the second sort of sugar. Other sugars, of a very inferior quality, are made by boiling up the cootrah of the third sort of cheenee, and the maht or syrup pressed out of the dannahdar ghoor when put into the hempen bags, as before stated: this is frequently mixed with the finer sugars before they are carried to market. The remains of this fourth sort is made up into a kind of medium composition between cheenee and ghoor, called kumsh ghoor. In short, the process is carried on by a variety of boilings, so long as any grain can be extracted from any of the different syrups or scummings; and after all, what remains of the dregs or scum is sold, and consumed by the natives in an infinite variety of ways.

7. I must here beg leave to observe to you, Gentlemen, that the process being as yet no further advanced in this neighbourhood than to the first operation of making the ghoor, all the other particulars here stated are derived merely from report. Should I, therefore, in the further progress of the manufacture, find that I have been led into error in this statement, I shall give a more correct account of the process when I shall have the honour of submitting to you the information you require on other points.

8. Secondly, In regard to the mode of provision suggested by me; to what description of people the advances are made; and whether they themselves cultivate the cane upon their own lands, or make advances to husbandmen or others; and the rate and manner of settling these under advances.

9. The business of the provision of this article for the Company's investment being yet in its infancy, and likewise in consideration of the drought and probable consequent dearth of the present season, I have deemed it prudent this year to make my advances to responsible pykars, who advance to the golahdars or manufacturers of the cheenee or sugar, who again advance to the gutchuahs or cultivators of the cane and manufacturers of the ghoor. The pykar, acting merely as an intermediate agent and security for the money advanced, makes the best bargain he can for his constituent with the golahdars, and receives his aurut or pykaree for his trouble, which is usually in the sugar trade three anas per maund. The pykars themselves do not cultivate the cane on their own lands; neither in general do the golahdars, though some few of the latter are proprietors of cane-lands, and employ servants or husbandmen to cultivate the cane and manufacture the ghoor. The advances made to the golahdars, and by them to the gutchuahs, may be considered as money lent to enable the former to secure ghoor enough, by advancing to the latter to give full employment to their works, and to enable the latter to pay their revenues becoming due before they can sell their ghoor in the regular course of trade. They each accordingly enter into engagements with the person making advances, to deliver a certain overplus of ghoor or sugar when manufactured,

purifying and the forming of the grain of the sugar. This kehar being laid over the tops of the jars as it is taken wet and fresh from the water, a layer of earth is put over it to press the juice gently out of it, that it may descend through the sugar.

factured, equivalent to the rate of interest they must otherwise pay for monies borrowed of other persons: the rate must therefore vary, according to the necessity of the borrower and the custom of the district, but is in general from one to two per cent. per month. It must be observed, however, that not every, nor perhaps the generality of the golahdars or gutchuahs, will receive advances on the terms above-mentioned; but it is still an advantageous plan to make advances to them while the cane is yet on the ground, even without any such stipulations for an excess of delivery on the score of interest: for the engagements being made for the delivery of a specific quantity of goods at the market-price of the season, which must frequently vary, the lowest price at which sugars of such qualities may have sold in the market at the time of delivery is of course taken as the standard in settling accounts. But, as I have heretofore observed, the principal advantage I have had in view from this mode of provision, is the securing to the Company goods of the qualities and in the quantities required, which cannot be done without great exertions and expense after the goods are once brought into the market.

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10. Though, for the reasons before assigned, and inasmuch as I was not assured that any investment of sugar would be required for the Company this year in time for making my arrangements for a more eligible mode of provision, I have thought it prudent to employ pykars, whose responsibility I have every reason to be well assured of; yet as I deem all such intermediate agency undesirable in every branch of trade, so it is my intention to employ them only for this year.

11. I have the honour to enclose you herewith a statement of the sorts of sugar, their prices, and the quantities I may probably be able to provide, with the sum allotted. You will remark, Gentlemen, that I have stated the probable prices of fifty maunds of each different gradation in the refinement of the first sort of chenee only, as I conceive you do not require samples of the inferior sorts produced by the syrups.

12. With regard to the samples you require, I fear it will be impossible to furnish you with them in time for the ships of the present season, as the whole process is not concluded till the end of February or March. The want of water in the different rivers is also another obstacle to their transmission; but should you deem it a matter of any material consequence to forward samples to the Court of Directors this season, and should have no objection to the expense, I may be able to furnish you with small samples of a few maunds of each degree of purity by land carriage, so as to reach the Presidency by the end of February. The samples I purpose sending are: first, the danahdar ghoor; second, what remains in the hempen bags after the syrup has been expressed and before boiling; thirdly, the sugar after the second boiling before it is purged by the weeds, (after the first boiling it is in too liquid a state to be transported with ease or in any other mode than in jars). I must, therefore, beg to be favoured with your orders, whether I shall send small samples of these three sorts by land, or whether I shall wait for the opening of the rivers to send the large samples.

13. All the other points you shall be informed of as speedily as possible, and certainly in time for consideration and transmission to the Court of Directors by the ships of this season.

I have, &c.

B. Mason, Resident.

Rungpore, 13th January 1792.

Estimate

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ESTIMATE of the probable Cost and Charges of Sugar ordered to be provided at Rungpore Factory for the Investment 1792.

	Quantity of 72 11 7 S. weight	Price per maund.	Amount.	
	Maunds.	C. Rs.	C. Rs.	C. Rs.
Danahdar ghoor	50	1 4 2.79	63 0 8	
Ditto, after the syrup is expressed	50	1 9 3	79 10 2	
Ditto, ditto, dohbarrah pohktune, or after the second boiling	50	3 11 5.52	185 13 0	
Charges merchandize, &c.	—	—	163 14 7	492 6 5
		Medium Price.		
Sugar A.....	8,001	5 11 0	45,505 11 0	
Charges merchandize, &c.	—	—	4,001 14 7	49,507 9 7
				50,000 0 0

(Errors excepted) B. MASON, Resident.

Rungpore Factory, 13th January 1792.

(From the Resident at Rungpore, 10th February 1792.)

From Rungpore, 10 Feb. 1792.

Gentlemen:—I have now the honour to proceed in my reply to your letter of the 13th December on the subject of sugar.

2. In my letter of the 13th ultimo, I have stated the process used by the natives in boiling and purifying the juice after it has been pressed from the cane, and the various degrees of purity or refinement to which they carry the process; but, on a reference to that statement, it appears to me that I have not been sufficiently clear as to the manner of producing the grain in the danahdar ghoor. I therefore beg leave to add, that after the boiling liquor has been removed from the surrai or cauldron into the earthen vessels, a small ladle-full is taken from each vessel and put by, while that which remains is beat and stirred about with sticks till it begins to granulate, when the small portion before taken out, and which has cooled more rapidly than the rest, is rubbed round the edges and laid smooth over the top of the ghoor in the vessels, which is said to assist in promoting the granulation of the whole.

3. The sugars produced in these districts differ nothing from each other in point of sweetness or strength of grain. It is to be understood, however, that I here speak only of the sugars produced from the original pure juice and ghoor: the inferior sugars produced from the mixture of syrups are, of course, inferior in both these respects. Neither is it supposed there will be any difference in the quantity of sugar produced from the same quantity of raw juice; though this is difficult to ascertain with precision, as the natives neither weigh nor measure the juice before it is boiled up into ghoor, but reckon by the field of cane containing so many begas of ground yielding such a quantity of ghoor, which will be more or less according to the soil and season, and so much ghoor yielding such a quantity of sugar, which will in general be nearly the same.

4. There is but one species of cane known in these districts, called kadgelee ookhor, or black cane, the outer skin or rind being of a dark brown colour.

5. The highest lands are always chosen for a plantation; and where nature has been defective in this respect, the ground intended for the cultivation of the cane is raised by art, sometimes four or five feet above the level of the adjacent lands. The soil in which the cane is supposed to thrive best, is a fine

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fine soft mould, mixed with a little sand. This soil is here termed dohrussah; literally, two-juiced. Those spots, therefore, on which the houses or huts of the natives have stood, are esteemed excellent, as having been raised above the common level of the country to prevent inundation, as having in general been well manured by the cattle, &c. about them, and moreover having their terraces composed of fine soft earth and sand, plaistered over continually with a mixture of mud and cowdung. A hard tenacious soil produces less luxuriant and harder canes, yielding consequently less juice, though that juice produces equally good sugar.

6. The husbandman begins to prepare his lands for the reception of the plants about the month of October, by ploughing it frequently: the weeds or remains of former crops turned up constantly by the plough, rot on the ground and form a kind of manure for it. About the end of November or beginning of December, he proceeds to dig round the skirts and throw the earth up into the field; this is done more or less, according as it may be judged that the land requires a fresh soil or further raising. He then works it again by frequent ploughing, to mix the new with the old soil, breaks the clods and lays it smooth. He next manures it with such dung or muck as he may have been able to collect from his cattle, &c. and ploughs again to incorporate it well with the soil. In January the ploughing is repeated, the earth broken fine and laid smooth; and in February, when the plants are ready, it is ploughed up into trenches or furrows, about a haut or one foot and a-half from the other.

7. One bigah of land will require about nine thousand plants, more or less, each plant being about a foot in length; and being laid flat in the trenches, at the distance of about three or four inches one from the other, the earth from the intermediate ridges is drawn lightly over them. When they begin to shoot, the earth is loosened and partly removed from about them, that there may be less opposition to their rising. Each plant will put out three or four shoots: generally one shoot from each joint in the plant, though not more than one or two of these shoots ever arrive at a proper or full growth. The ground is kept constantly well weeded till the month of June, by which time the canes in a good soil will have risen to the height of about two or three feet. A liquid manure, composed of dung and cullee (the refuse of the sursoon or mustard-seed after the oil has been expressed) mixed with water, is then sprinkled over the field, after which the ridges between the rows of cane are turned up with codallies (a kind of large hoe), and the earth thrown to each side on the roots of the canes, leaving small trenches between each row: nothing further is done to the land; but the canes rising rapidly from this time till the month of October, as they acquire such a height as to require support against winds and storms, three or four canes are tied up together near the top with the lower leaves, which are stript off for that purpose. The canes so tied up together are called jâhr; and as they gain further height and require further support, three or four jâhrs are in like manner tied up together. This operation is repeated nearly every month, till the canes are ripe and fit to cut. The usual height of the canes in these districts is from eight to ten feet in good ground, though many canes in every field will not exceed two or three feet.

8. The canes from which it is intended to manufacture the puttelee ghoor are generally cut about the months of October or November, and for the danahdar ghoor, from which the sugars are produced, about December or January, and sometimes in February. The reason for cutting the canes at different periods for these two different manufactures, is that the cultivators who may not have received advances from the golahdars, either owing to their situation in a part of the country where there may be no manufactory of sugars, or from any other cause, require money for the produce of their land at an earlier period, to enable them to pay their revenues. Those who have received advances are in no such haste to cut their canes, as by allowing them to grow to their full maturity, the quantity of ghoor produced from them will be greater, and the quality superior in point of strength of grain. The granulation is also supposed to be more effectually promoted, by the greater degree of cold at that season than in the former months.

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9. The canes being cut and the lower dried leaves removed, they are carried from the field in bundles. The top or head of the cane, which still retains green leaves, is first chopped off to about the length of a foot. These heads are tied up in bundles and put by in the husbandman's house for planting, where they lie ten and twenty days, and sometimes a month, till the other lands are ready to receive them. The remainder of the cane is then chopped into small pieces, about two inches in length, which are carried in baskets to be pressed in the mill.

10. One biggah, supposing the soil and season favourable, is computed to produce from fifteen to twenty maunds of ghoor, of the standard of sixty-eight sicca-weight to the seer; and one maund of ghoor to give nine or ten seer of the first sort of sugar, and about twenty-seven or twenty-eight seer of cootrah ghoor and mâht, of which I have given an explanation in my letter to the Board of the 13th ultimo.

11. As the profit attending the cultivation of sugar will be greater or smaller according to the revenue paid for the lands, and as the revenue will differ according to the quality of the soil, the nirkh or rate of the district, pergunnah, or village, and also according to the tenure by which the lands are held, it is not easy, Gentlemen, to give a clear answer to your inquiries on this head. It frequently happens that a ryott will rent a number of biggahs of good and bad ground promiscuously, at a specific annual quit-rent on the whole; in which case the rate of revenue will be from one and a half to two rupees per biggah, whether the land be cultivated with cane or any other production, or even though they should not be cultivated at all. Hence it is obvious, that the profit on such part of these lands as may be cultivated with sugar, cannot be estimated separately from the profit on the whole collectively. If a ryott rent a piece of ground for the express purpose of cultivating sugar, he will be assessed at the rate of three, three and a half, or four rupees per biggah on the fussil or crop. The same lands, if cultivated with cotton, will pay a revenue of about one and a half rupee per biggah; if with âoosh (rice of the rubbee fussil or crop), about twelve annas. It is to be observed, that lands which are proper for the cultivation of sugar are adapted to but few other crops, such as moong (a kind of vetch eat by the natives), âooch (rice as before mentioned), coppass (cotton), sursoo (mustard-seed), and one or two other trifling crops, some paying a revenue and others none. The same land is only cultivated with sugar once in three years; though I cannot learn that there is any other reason, except the obstinate adherence to long established custom among the natives, why it should not be cultivated with the same every second year. The revenue being generally paid on the crop, and a crop of sugar taking in a period of from fourteen to seventeen months, whereas other crops seldom exceed six or seven months, in order to form an estimate of the annual revenue and of the annual profit compared with other productions, it will be necessary to take two years into the account. Thus a biggah of land planted with sugar, supposing it to produce fifteeen maunds of ghoor, and to pay three and a half rupees revenue on the crop, is computed to yield a profit to the cultivator of about two rupees. The canes being cut, the land is again worked, and moong (say) is sowed. This crop pays no revenue, but is computed to yield a profit to the cultivator of about eight annas. When this crop is cut, the ground being again cultivated with coppass will pay a revenue of about one and a half rupees, and leave a profit to the cultivator of about eight annas more. These three crops will be as much as can be produced on the same ground within the two years. The revenue paid on them will be:

On the sugar crop	Rs. 3	8
On the coppass ditto	1	8
	——	5.

And the profit to the cultivator:

On the sugar crop.....	2	0
On the moong ditto	0	8
On the coppass ditto.....	0	8
	——	3.

The same lands, if cultivated with any other crops, (supposing them to produce

produce four crops in the two years), would yield a revenue of from two to four rupees, and a profit to the cultivator of from one and a half to two rupees per biggah. Mulberry lands are in general reserved solely for that production, but left fallow one year in three or four. They pay a revenue of from two to three rupees per biggah, and yield a profit to the cultivator of one rupee or one and a quarter per annum.

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12. There do not exist any customs or impositions of zemindars, farmers, or others concerned in the revenue, tending to check or discourage the cultivation; unless the usual mode of assessing the revenue on the crop may be considered in this light. A fixed rate of revenue payable on every biggah of land by the year, should seem likely to promote an increase in the cultivation of sugar, inasmuch as, the rate of revenue not rising in proportion to the value of the crop, the profit to the cultivator would be so much the greater on a crop of sugar. This mode of collecting the revenue has, however, on several occasions been opposed by these very persons (the ryotts), whose interest would seem to be more particularly promoted by its adoption. But even according to the present prevailing custom, and at the highest rate of revenue paid for sugar lands, there appears to be a sufficient profit arising from the cultivation of this, in preference to other productions, to induce the ryotts to grow as much sugar as the nature of their lands will admit; but, in fact, their obstinacy in adhering to the cultivation of the same productions which they and their ancestors have been accustomed to, even though a change be evidently for their advantage, is almost insurmountable, as I have lately experienced, in some unsuccessful attempts I have made to introduce the cultivation of the China mulberry and the fine Dacca coppass.

13. The usual quantities of sugars produced in these districts are supposed to be nearly as follow:

1st sort, made from the original ghoor.....	Maunds	40,000
2d sort, from a mixture of ghoor and cootrah of the 1st sort, equal quantities.....		25,000
3d sort, from one-fourth ghoor and three-fourths cootrah of the 2d sort		10,000
Total maunds		75,000
The annual consumption about		3,000
The remainder exported to Dacca, Moorshedabad, and Calcutta		72,000

It is to be observed that this is the computed produce of the sugars which go under the general denomination of Goragaut sugars, and are produced as well in parts of the Rajeshahye and Moorshedabad districts bordering on Goragaut as in most parts of the Dinagepore and Rungpore districts.

14. I have here, Gentlemen, stated every particular that suggests itself to me as pertinent to the subject, unless a description of the construction of the mill used in this part of the country for pressing the juice out of the cane should be deemed worthy your attention. It is a very rude and awkward piece of mechanism, and in my idea very ill adapted to the purpose. It is here called gautch (literally tree), a name eminently descriptive of the machine, being principally formed of three large trees or timbers. The first and largest is sunk several feet in the ground. About four or four and a half feet remaining above, is hollowed out like a bowl or mortar, about two and a half feet in breadth at the top and narrowing downwards to the depth of about a foot or a foot and a half, leaves a circular aperture of about five of six inches in diameter, below which is a globular excavation of about seven or eight inches, having a hole in its bottom sloping through to the outside near the ground, to which is affixed a lip or spout, to catch and convey the juice free of the mill into the earthen vessels sunk in the ground beneath. A second tree or large branch, of about eighteen feet in length, is cut at the thick end into a knob or ball at the bottom, of such a size as to admit of its passing through the aperture into the lower cavity of the mill, and to allow it to

See the Engravings.

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to play there freely; and above the ball shaped like an inverted cone, the sides of which are equal in length to the sides of the upper bowl of the mill: the other parts are left in their rough state to the top, which is pointed. This may be termed the bruising pestle; and being placed in the mortar, the ball at the lower end descending into the lower cavity, is kept in its place by the throat (if it may be so called) between the upper and lower bowls; and one side of the inverted cone resting against the side of the upper bowl when it is put into motion, it rolls round pressing against every part of the bowl. To give it motion, a cap or socket, cut out of a block of wood, is fitted on the pointed top of the pestle, from which a rope descending at a slope fastens to a large beam, about twelve or fourteen feet in length, which runs thence horizontally to the lower part of the mill, a little above the hole and lip for letting out the juice. The end of this beam joining to the mill is either cut out forked, or more commonly another piece of wood is joined to it to give it that shape, which embraces the mill and runs round in a groove, being kept there by a rope round the groove fastened to each end of the fork. To the other end of the beam, where it is joined and supported by the rope from the cap of the pestle, one or two bullocks are yoked, according to the size of the mill; and the driver sitting on the end of the beam behind the bullocks, gives by his weight additional force to the pressure of the pestle against the sides of the mortar. A man stands by its side as the pestle rolls round, throwing in fresh bits of cane and removing what have been pressed, and stirring them about to bring them all equally as possible between the pestle and the sides of the mortar, and also to prevent their being forced over the sides. This operation appears to me defective and injudicious in many respects. First, as in the chopping of the cane into small pieces, some of the juice must be lost in the act of chopping. Secondly, as the juice cannot be all equally expressed from every piece by so rude a machine; some will be broken so small that some particles of the cane will be carried along with the juice, while others will remain but half, or at least only partially, pressed; and thirdly, as notwithstanding the utmost attention of the man by the side, some pieces of cane will be inevitably forced over the sides of the mill, and some partially pressed pieces removed with the general mass of well-bruised pieces.

I have, &c.

B. Mason, Resident.

Rungpore, 10th February 1792.

P.S. Since writing the foregoing, I have been favoured by a friend with drawings of the sugar mill, which I have herewith the honour to inclose, as being more clearly illustrative of the construction of the machine.

B. M. Resident.

(From the Resident at Santipore, 25th July 1792.)

From Santipore, 25th July, 1792.

Gentlemen:—I have now the honour to transmit you a reply to the instructions respecting sugar that accompanied your letter of the 23d March last.

The two kinds of sugar that I have already dispatched to the Presidency, distinguished in my invoices as first sort and second sort, are the same as are described in the accompanying Report, under the names of boora cheni and dowloa.

I have, &c.

Santipore, 25th July 1792. E. Fletcher, Resident.

Reply to Instructions received from the Board of Trade respecting Sugar.

Process used by the Natives in making Sugar.

Immediately after the juice has been pressed from the cane, it is put into earthen vessels and boiled down to a pretty thick consistence, generally to one-sixth or seventh part of the juice, and in this state (termed by the natives ghoor) it is purchased by the manufacturers of sugar from the cultivators of the cane.

The sort of sugar most generally made in this aurung is called by the natives dowloa, and is prepared as follows. Ghoor or jagry is put into baskets very

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very closely woven, and kept in them until about one-fourth part has dripped gradually through into vessels underneath. What remains in the baskets, being an impure, dark-coloured damp sugar, is removed into other baskets of rather a more open texture, and left to strain through for three or four days exposed to the air; the baskets are then covered with a very broad leaved kind of grass found in lakes and ponds, called seeola, and kept so for five or six days (fresh grass being applied as the old becomes dry or withered), during which time the molasses contained in the sugar continues to drip through the bottoms of the baskets into other vessels. After this process the sugar remaining in the baskets appears to be hard and dry, and is scraped off by an iron instrument or large knife. If the sugar towards the middle or bottom of the basket should appear damp, and not sufficiently cleared of the molasses, fresh grass is again applied, and continued until that appearance goes off.

Another process is used in making what the natives term chini, which appears to differ little in purity from the dowloa, but is in general larger grained.

Goor is kept in baskets, as mentioned before, until one-fourth has strained through. The coarse sugar remaining is boiled into syrup, and the scum that rises in the boiling taken off, a little milk and water being sprinkled into it during the boiling; it is then poured into earthen vessels of the shape of an inverted cone with a small hole in the bottom. They are exposed to the sun and dew for four days and nights, the bottoms being closed up. The stoppers are then taken out of the bottoms to let the molasses run off, and two days after the vessels are covered with seeola, and kept so for four or five days, the holes in the bottoms being left open to drain off the molasses. The sugar is then scraped off as mentioned before.

Two other sorts of sugar, more refined, are made by re-boiling the dowloa, termed by the natives boora chini and dobara chini.

The process used in making the boora is as follows:

Dowloa is boiled in earthen pans into a syrup, and as it boils, some milk mixed with a little water is sprinkled into it. A scum rises to the top, which is taken off, and the boiling continued until the syrup has considerably thickened; it is then taken off the fire, and kept stirring until it cools and becomes a solid mass. This is put on a table or smooth stone, and bruised by a roller into a powder.

The next is the greatest degree of refinement to which the process is carried.

Dowloa is boiled into a syrup, and refined with milk as already mentioned. All scum that rises to the top is taken off, and after the boiling has continued some time, the syrup is poured into vessels of the shape of inverted cones, with a small hole in the bottom.

It there goes through exactly the same process as has been described before in making chini from the goor. This sugar is much whiter and purer than any of the other sorts.

There are two sorts of cane, distingushed by the names of poore auk and cadjoolee auk; the former being of a light yellow colour, and the latter of a dark colour approaching to black.

The pooree auk is the kind in general cultivation here, very little of the cadjoolee being grown, and that little not being kept separate, but planted promiscuously with the other.

The pooree is said to yield more juice, and to require less pressure to extract it from the cane: the cadjoolee has a harder cane and yields a richer juice, six maunds of the juice of the cadjoolee producing as much goor or jaggry as seven maunds of the pooree juice. The natives here do not seem to know whether the inherent properties of the sugar differ from each other, but it appears probable that sugar made from the cadjoolee is sweeter and of a larger grain than the other. The same cultivation is required for both, and I am informed that the cadjoolee is generally grown in Beerbhoom.

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Land where sugar-cane is intended to be planted should be high, rich, and not very stiff: it ought to be ploughed eight or ten times, in the months of January, February, and March, and well manured. The time of planting is usually in April, and for each bigah 7,680 plants are required. The ground should be kept free from grass and weeds, and occasionally loosened about the plants. As the leaves grow large they ought to be taken off. The produce of a bigah, properly cultivated, is estimated at from ten to twelve maunds of sixty sicca-weight to the seer of goor, and it is reported to yield a better profit than other productions of the country, except the mulberry.

It is difficult to say what revenue is actually paid by the ryotts for lands producing sugar-canes. In the Nuddea district they pay according to the different articles of produce found on these lands at the time a measurement takes place (which I believe a zemindar may now make every year, if he thinks proper to do so). For instance, when a ryott's land is measured by the zemindar, he must pay for ground on which sugar-cane happens to be growing at from S.Rs. 2 4 to S.Rs. 3 4 per bigah; and for the best land producing rice only S.Rs. 1 6 per bigah, although it may not be at all inferior to that on which the sugar-cane has been found. The quantity of land in cultivation, and the different articles growing thereon being ascertained, the rent to be paid by the ryott is fixed, and remains so until another measurement takes place. For instance, if a ryott has ten bigahs of ground, five planted with sugar-cane and five with rice, his rent probably would stand as follows:

5 bigahs of sugar-cane at 3 rupees,...Rs. 15
5 do. of rice ..... at 1 do. 5

Annual rent..... 20; average rate Rs. 2 per bigah.

He is at liberty afterwards to grow what he pleases on his land until another measurement is made, paying the above rate, which he must do. On the other hand, a ryott on whose land rice only should be found at the time of measurement, will stand assessed at perhaps one rupee per bigah, and I believe is equally at liberty to cultivate sugar-cane, or any thing he pleases, without being liable to be called on for any additional rent, until his land shall be measured again, which may not happen for many years. This is, I understand, the mode by which the lands are assessed in Nuddea: whether the same custom prevails in the neighbouring district of Burdwan I do not precisely know. I am not acquainted with any other customs likely to discourage or check the cultivation of sugar. The above appears to be an uncertain, vague mode of fixing their rent of lands, liable to abuse; and it might be worthy of consideration, whether exertion to cultivate and improve lands would not be more likely to be called forth, if zemindars were to grant pottahs to all ryotts for the lands they hold, at a fixed rate per bigah, and for a certain number of years, leaving it entirely optional to the ryotts to cultivate whatever they thought best.

The quantity annually produced in this aurung is estimated at 36,000 maunds of goor, out of which about 2,000 maunds of sugar is exported, the remainder being consumed in the district.

The advances have been made to people whose business it is to make sugar, and who have no concern in cultivating the cane; they procure goor in the country either by giving advances for it to the ryotts or by purchasing it.

Cajure, or Date-Tree Sugar.

The juice is procured by making incisions near the top of the tree, just under the bunch of leaves, from which it is conducted by a bamboo pipe into an earthen vessel. It is boiled down to goor in the same manner as the juice of the sugar-cane, and the same process used in making sugar from it as described in making chini. The juice is extracted from November to February.

The produce of the district is estimated at 15,000 maunds, of which about 3,000 are used for internal consumption, and the remainder exported. The revenue paid is from four to six rupees per annum for one hundred trees.

E. FLETCHER, Resident.

Santipore, the 25th July 1792.

Gentlemen:

(From the Resident at Santipore, 19th August 1792.)

Bengal Board of Trade Consultations, 4 Sept. 1792.

From Santipore, 19 Aug. 1792.

Gentlemen :—I beg leave to transmit you the following account that I have received of the cajure tree since my letter of the 25th ultimo. As you may not perhaps have seen the cajure fruit, I enclose for your inspection a few of the stones, which appear to be the same as those of the dried dates brought from Bussorah, only of a smaller kind.

2. The cajure tree is raised from the stone of the fruit, which ought to be planted in June, and generally shoots above ground in November. It continues to grow for about thirty years, and the height of the tree varies, according to the nature of the soil and care taken of it, from twelve to between thirty and forty feet: it has no branches from the trunk, but bears a large bunch of leaves at the top.

3. The first juice for making sugar is extracted from the tree when it is about seven years old and about four feet in height. This is done by making incisions under the bunch of leaves at the top, whence the juice is conveyed by bamboo pipes into an earthen vessel tied to the tree.

4. The time for extracting the juice is from November to February, and a tree will in this manner continue to yield juice annually for twenty or twenty-five years. A single tree will produce in a season from one and a half to three maunds of juice; the average may be taken at about two maunds and a quarter, which when boiled down will yield about seven seers of goor; and a maund of goor is averaged to yield about nine seers of chini. The general calculation is that twenty-five trees will produce a maund of chini.

5. The tree begins to bear fruit at about the age of ten years; it ripens in May, is of a ruddy colour, and is eaten by the natives.

6. There are hardly any regular plantations of the cajure tree, as there are of mangoe and other fruit trees. They usually occupy spots that would not be put to the purpose of cultivation. They are very generally planted on the banks of tanks, and round fields to serve as landmarks. In the Jessore district the poorer classes of natives commonly plant a few close to their huts, which serve as a protection against storms. The ground about the roots of the tree should be opened annually, and a quantity of fresh mould added; but this is very seldom done, the tree being generally left to nature.

I have, &c.

Santipore, 19th August 1792. E. FLETCHER, Resident.

(From the Resident at Soonamooky, 22d July 1792)

From Soonamooky, 22 July 1792.

Gentlemen :—Your letter of the 13th December, relative to sugar, I was duly honoured with, and am very sorry that I have so long delayed furnishing the information it required; but a wish to be acquainted with the process by ocular demonstration, and the great variety of business which I have daily to perform in detail, deprived me of the means of arranging and putting into order the particulars desired to be made known, for until the setting in of the rains, I have really not had a leisure moment.

2. I shall first direct my attention to your seventh paragraph, relative to the soil, observing preliminarily, that I know not of any imposition of zemindars, farmers, or persons in the revenue line, tending to discourage or check the culture of sugar-cane. And regarding the soil, the natives of Beerbhoom particularize three sorts, the mittial, balia, and doo asso. The first is free from sand, the second a sandy soil, and the latter a mixture of black mould and sand. The mittial and doo asso, are both calculated for the sugar-cane, the latter in preference; but on the balia it will not grow, or if it does in a very bad condition, and requiring infinitely too great an expense for manure. Nor in the proper soils will the cane thrive if the land is subject to be overflowed, a circumstance not likely to happen in Beerbhoom, which is generally hills, and vallies with rivers running through them.

3. The mode of preparation for both sorts of land is the same, subject to some trifling deviation in the manure for superior richness in the ground; and the method pursued is twice ploughing in Chyte (March), then for each begah one hundred bullock-loads of cow-dung and half that quantity of rich mould

Bengal Board of Trade Consultations, 4 Sept. 1792.

mould, either bottoms of tanks, or preferably old houses. After a norwester or heavy fall of rain, the ground is again twice ploughed and harrowed. Smooth ridges are then raised about four feet high, and distant from two feet to two feet and a half; and whilst the ground is moist the plants are placed on the ridges, at about two feet or two feet and a half from each other, a little inclining to slope. Should rain not fall for five or six days afterwards, it is necessary to moisten round the plants with a mixture of water and cow-dung; and the drought continuing, the same moistening must take place every four or five days. Each plant will produce seven, eight, nine, or even more shoots, which are to be wrapped round and tied together with their own leaves when four feet high. In Bhadun (August) about a quarter or a seer of coil (pressed mustard-seed after the oil has been extracted), should be put to each root; and if there is a deficiency of rain, water must be conveyed to the field, till it covers the ridges, and not let run off for four or five days. When the plant has attained the height of five feet and a half or six feet, four of the original roots, bound up as before explained, are brought together and wrapped round from top to bottom. This is intended to preserve the canes from the bad effects of winds, and prevents a multiplication of leaves; at least, it in some measure resists the rapidity of their vegetation, and they are supposed to draw from the cane a part of its nourishment. Young shoots which may now arise are carefully removed and given to the cattle. In the beginning of Assin the ridges are levelled, and care always taken that as the plants shoot up the whole are bound together, and that no weeds are allowed to vegetate. Except this, no further attention is required, until it is ready to be cut down; unless the season is very dry, when occasional waterings will be necessary. The cane is ripe in Beerbhoom in Maug (January), and rises to the height of nine, ten, eleven, or even twelve feet, more or less, according to the difference of soil, season, or attention. It is cut down with a coodallie, and stript of its leaves with a sickle. About fifteen inches from the top is cut off for shoots for the next season; and as they have always infinitely more than they can use, a part of them are given to the cattle.

4. These lands are capable of the culture of rice or cotton; but when planted with cane neither of them can be grown, for the cotton is only ripening when the sugar plants are put into the ground, and consequently but one crop can result. It is to be observed, that the natives consider the cane to have imbibed so much of the juices of the ground, as to render its culture on the same spot for two years successively as almost impossible; therefore the second year rice only is sown, and every means taken to enrich the lands before the season for sugar-cane planting, in the place of sowing cotton, which otherwise might be done; but then the cane could not be planted until the next season, and consequently two years elapse before a second crop being obtained from the same land.

5. The natives make two distinctions of cane; khazoolee ook, which is purple-coloured, and the pooree ook, which is tending to yellow. The first is that principally cultivated in Beerbhoom, and is esteemed to be the sweetest and most productive. In the raw state, the natives seem, however, to prefer the other, and the sugar from it is white, but wet, of the description mentioned in my letter of the 31st May 1792; and this may sometimes happen to the purple cane, from difference or poorness of soil.

6. I before mentioned, that the heads of the canes were cut off for the next year's shoots; and the method of preserving them till required, is by tying up forty or fifty together, directly after their separation from the cane. They are then placed upright in a moist spot, generally near a tank, but on a slope to prevent a sudden fall of rain from laying them under water, which would destroy them; but great care must always be taken that they are kept moist. In a few days they will throw forth new leaves. About the middle of Chyte (March) they are taken up and carefully cleared of their old leaves, and each separately dipt, one by one, into a mixture of cow-dung and water, together with the coill, a dry spot being prepared with the richest mould, and a small quantity of the coill (but the whole loosely), into which the plants are separately placed, and a small parcel of the earth strewed amongst them, and then covered with leaves of grass to preserve them from the heat. This separation takes

takes place about ten or twelve days before the planting out into the fields. About 3,000 are said to be requisite for a bigah, and when in this last state of preparation, are sold from 1,000 to 1,300 per rupee.

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7. Different parts of the district pay different rates of assessment, more owing to situation and affinity of water than superior richness in the soil; and the ryotts of Beerbhoom have pottahs for land at a specified rate, without reference to culture, so that the ground may be sown with whatever seems best to themselves. The rent of sugar-land, in no instance that I have inquired, exceeds two rupees and a half per bigah, and in some places not two; but I believe three rupees may be considered as a medium: and a statement of profit of sugar-cane compared with a crop of rice and cotton I have subjoined. I cannot pretend to ascertain the usual produce and export from the aurung, because it is so extended; but speaking of Beerbhoom in particular, and to which I more immediately confine my observations, I do not understand that the export has been beyond 12,000 cutcha maunds: but then it must be observed, that great quantities of the goor have also been sent away, and therefore taking the one and the other, I should conceive the whole to be near twenty thousand maunds, or about fifteen thousand factory weight.

8. I come now to the process of sugar-making: the first of which is the obtainment of the juice, which is had by putting the canes into a very clumsy and awkward machine, with a species of lever worked by two bullocks, by means whereof the cane is pressed to pieces, and the juice falls into a hole below, from whence it is conveyed into earthen pots, placed on a platform, under which a brisk fire is kindled, and fed by the dry squeezed cane. It remains in these pots in a boiling state for four or five hours, during which it is carefully scummed with a wooden ladle, and cleared of all bad particles. The greater the attention in this process, the better the sugar; but the quantity is lessened. The sufficiency of this boiling is ascertained by the juice from the ladle falling clear, drop by drop. If thick and in a body, it is over or under boiled: in the first instance, the sugar will be a small grain; and in the latter, with the addition of bitterness in the taste. The pressing machine will extract about thirty-two maunds of juice daily, which after the boiling yields near four and a quarter maunds of the best goor for sugar.

9. About twelve maunds of this goor are now put into a strong close bag, wove of hemp twine, which is suspended over a pucka reservoir, which catches all the juice which oozes through, and from which sweetmeats are made. The day after its suspension it is encompassed by three pair of pressing-boards, tied very tight. As the liquor oozes from the bag these boards are drawn close. It remains thus five days, when the remaining goor is taken out. The bag being well washed, the goor is again put into it, after previously being well mixed with water, about a quart to each maund, and the pressing-boards are again applied, and in this state it continues for five days longer. A third time it undergoes this process, but then remains ten or twelve days suspended; and when no liquor is observed to ooze from the bag, it is considered as ready for boiling into sugar. All the different drippings from the bag are preserved for sale, being what is called jaggry.

10. The boiling is performed over a deep hole, somewhat like a furnace; two maunds of goor, or according to the size of the pots, at a time, to which about thirty quarts of water are added. The fuel used is dry leaves, if to be had, as they burn exceedingly fierce, and are not subject to smoke. A man stays by all the while continually feeding the fire, but with the utmost caution, for if the flame rises too high the liquor will almost instantly boil over: indeed such very great caution is requisite, that the leaves are thrown in almost singly. The liquor remains in a boiling state about an hour; but whenever it rises it is constantly scummed with a ladle, and sprinkled with warm milk and water, which causes it to subside. When boiled sufficiently, it is strained through a fine gunny and put into a long jar, and again undergoes another boiling; but the milk and water now used is cold. In general half an hour will be sufficient: and, to ascertain that sufficiency, a little is taken between the finger and thumb, and if it easily forms into grain it is ready; if it adheres to the fingers, it has been exceeded; but if the goor appears raw, and will not granulate, it is not boiled enough. The sufficiency

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of the boiling may be ascertained the same way as in the first juice process.

11. Although all the precautions necessary have been most assiduously attended to, yet the sugar produced depends for its superiority of quality almost entirely on the land from which the cane has been produced; and notwithstanding that many soils appear the same, yet the sugar is not of a like quality. I cannot pretend to ascertain the reason of this difference, nor can the natives afford the least insight into the cause.

12. When the boiling is completed, the sugar is put into earthen jars, and allowed two days to cool and harden; after which wet leaves from the tanks, called patthaa, are placed on the top; and a hole is made in the bottom, which is plugged up with soolah (a species of rush), through which oozes whatever liquor may be in the sugar. In general, after five days all dropping ceases. This distilled liquor is called cotterah, and is used in sweetmeats, and also exported to Moorshedabad. In about fifteen days the sugar is supposed to be perfectly ripe; about two inches from the top is the best and whitest, and it gradually gets browner till you reach the bottom, when it is little better than the cotterah. The sugar-bakers in Beerbhoom consider it more for their advantage to mix all except the bottom together; for were they to separate the good from the bad or indifferent, they might find a difficulty in the sale of the inferior quality. After taking it out of the pots, it is laid in the sun until dry, and the whole is then ready for sale.

13. The Bishenpore sugar, with the addition of another boiling, is made by the same process; but as the price paid is higher there, the whole of what undergoes the filtering with the leaves is brought to the same quality, by scraping off the top and then wetting the patthaa again. But a very great quantity of the sugar is necessarily lost, and a much longer time requisite for refining a quantity. With regard to samples, I shall forward you as directed, independent of the sugar already procured for the investment.

14. It is proper to observe, that an inferior brown sugar is sometimes had from the jaggry and the cotterah, with a mixture of double the quantity of the former to that of the latter. It requires but little boiling; indeed, once bringing to boil is almost sufficient; but its colour is exceeding brown. This sugar is made during the rains, and of which samples will be sent to you.

15. In the comparative statement of the profit on sugar lands, attention must be made, that ignorance or laziness may cause a very great difference from my statement, or a superabundant season may greatly alter the produce; it is therefore to be considered as drawn up under the idea of a tolerably favourable season.

16. And relative to your eighth and ninth paragraphs, I have the honour to acquaint you, that I made advances direct to the sugar-bakers, as also to pykars, and employed my own servants in all parts of the district, to give me information of people in the manufacture, as well as to buy up the sugar. In some instances, the bakers are also cultivators; but unless a family consists of a number of persons, it seldom happens that their own cultivation is any ways extensive, consequently their provision of juice is obtained by advances to ryotts. The sugar-bakers are, generally speaking, men of property, have long been in the trade, and well acquainted with the people they ought to trust. The ryott delivers his goor to them after it is prepared, as explained in my eighth paragraph; but his accounts are not closed immediately, as a general meeting of the parties concerned takes place in April, when the rate per maund is settled, and his engagements adjusted. A large interest on the advances is always paid, and if that could be diminished it might be for the benefit of an increased culture; or, could it be well effected, a forbearance of Government demands for rent until the cane was ripened would probably ease the cultivatior of the loss he sustains by the heavy interest paid for money taken up on his crop.

17. I mean not to press this as a proposition; but conceiving it might be for the advantage of an increased culture, I have thrown out the hint. The

sugar-

sugar-cane is subject to depredations from the wild hogs, and the plantations near the jungles are always obliged to be watched for the purpose of keeping them off.

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18. In undertaking the manufacture at the factory, so very much detail of inferior advances would be requisite, that I scarce think the profit which might be derived from it would compensate the risk; besides, the refuse jaggry and cotterah would lead to another source of commerce, I believe out of the intended line of agency. But should you think proper to direct that mode of provision, I shall most readily exert myself to the utmost in carrying your orders into effect.

I have, &c.

J. CHEAP, Resident.

Soorool, 22d July 1792.

COMPARATIVE

Bengal
Board of Trade
Consultations,
4 Sept. 1792.

COMPARATIVE STATEMENT of the Profits derivable from a Bigah of Land, cultivated with SUGAR CANE, and what might be obtained from the same Land if cultivated by a crop of COTTON and RICE.

SUGAR CANE.

Estimated Produce, 28 maunds of goor, at 1 rupee per maund of sicca weight 58 10 to a seer				Rs. 28	A. P. 0 0
Deduct charges:	Rs.	A.	P.		
4 Ploughings at 1 a. 9p.	0	7	0		
2 Harrowings...do.	0	3	6		
10 Bullock-loads of cow dung	1	4	0		
Bullock-hire for...do.	0	8	0		
50 Bullock-loads black mould, with bullock-hire	0	8	0		
Plants	3	0	0		
4 Maunds of pressed mustard-seed	1	4	0		
Labourers' hire, weeding and watering the ground	2	0	0		
Do. for cutting the cane, bringing it to the pressing-house, gunelahs, boiling, &c.	4	6	0		
Hire for the pressing-house	0	14	0		
Bullock-hire for pressing do. 7 days, 16 bullocks each day, is	3	8	0		
Revenue for 1 bigah	3	0	0		
				20	14 6

It is to be understood that all the labourers are to be hired. A man cultivating for himself will do double the work of a hired labourer.

Estimated Profit.....Rupees 7 1 6

COTTON and RICE.

Estimated Produce.				Rs.	A. P.
9 Maunds of paddy, at 3 maunds per rupee				3	0 0
Paddy straw				0	8 0
Mustard-seed, Moosooree Collye, or other small grains sown with the cotton				1	0 0
3 Maunds of uncleaned cotton, at 3 rupees per maund				9	0 0
				13	8 0
Deduct Charges:					
Rice Cultivation.	Rs.	A.	P.		
5 Seers of paddy for seed	0	2	0		
2 Ploughings and harrowing at 1 a. 9 p	0	5	3		
Labourers' hire for planting the young paddy, keeping the ridges in order, cutting the paddy down, &c.	0	8	0		
	0	15	3		
Cotton and Mustard-seed Cultivation.					
3 Ploughings and 2 harrowings after the paddy has been cut, at 1 a. 9 p	0	8	9		
Manure and bullock-hire	0	3	0		
4 Seers cotton-seed	0	1	0		
½ Do. mustard-seed	0	0	6		
3 Labourers for pulling up the mustard and drying it	0	3	9		
1 Ploughing after the mustard-seed is pulled up	0	1	9		
60 Coolies for watering the cotton, clearing the ground of weeds, sowing it, and gathering the cotton	4	11	0		
Revenue	3	0	0		
				9	13 0
Estimated Profit.....Rupees				3	11 0

J. CHEAP,
Resident.

(From the Resident at Soonamooky, 20th August 1792.)

Bengal Board of Trade Consultations, 4 Sept. 1792.

From the Resident at Soonamooky, 20 Aug. 1792.

Gentlemen:—On referring to the letter which I had the honour to address you on the 22d ultimo, I find that some particulars are still requisite to complete the information on the subject of sugar; and I therefore now supply the deficiencies, which are the measurement of a Beerbhoom bigah, which is eighty covids long by eighty broad, or forty English square yards; and, secondly, the quantities of sugar, &c. procurable from the twenty-eight maunds of gour produced from a bigah, which I am informed are:

Sugar, 13 seers per maund of gour ..... Maunds	9	4
Cutterah, 7 ditto	4	36
Jaggry, 15 ditto	10	20
	24	20
Wastage from boiling, scumming, &c.	3	20
	28	0

And with a further view of rendering the subject complete, I have also the honour to lay before you a statement of the profits derivable from the manufacture, *viz.*

Sugar, Maunds 9 4, at S.Rs. 4 8 ..... S.Rs.		40	15 4
Cutterah, 4 36, at 30 seers per rupee		6	8 10
Jaggry, 10 20, at 1 maund 20 seers per ditto		6	0 0
		53	7 14
Cost of the gour	28 0		
Estimated charges	10 8		
		38	8 0
Profit..... S.Rs.		13	15 14

It is to be observed, that I speak of the early part of the season; for as the articles become scarcer, the price consequently rises; and few are so provident as to lay in their store of gour at once: but taking it in that view, the benefit to the sugar-boiler is very great. In the charges, four annas only are supposed to be the cost of bullock-hire, collecting of leaves from the jungles, and wages to the people employed; but two annas more are added for the buildings, wooden horses, jars, &c.

This year every article has been considerably dearer than usual, from the drought of the season; and notwithstanding, when I first commenced purchasing for the Honourable Company, the sugar was at Rs. 5 2, and has since gradually risen to Rs. 5 12; I therefore conceive that the medium price of a good year will be about what I have stated: but the weight is only 58 10 to the seer, whereas all my receipts have been 60.

I am, &c.

Soorool, 20th August 1792. J. Cheap, Resident.

A report having also been received from the Resident at Commercolly, in pursuance of instructions sent him as per separate proceedings, the same is entered as follows:

(From the Resident at Commercolly, 5th August 1792.

From the Resident at Commercolly, 5th Aug. 1792.

Gentlemen:—I have the honour to send accompanying such particulars relative to sugar as I have been able hitherto to collect, and shall not fail to transmit any further information I may obtain. With respect to the process of making the sugar, I shall have it in my power to be much more explicit, when I have an opportunity of observing it myself.

I have, &c.

Rich. Becher, Resident.

Commercolly, 5th August 1792.

First Process for making Sugar, at Commercolly.

Bengal Board of Trade, Consultations, 4 Sept. 1792.

The juice is first pressed and strained through bags of gunny or thick cloth, which is repeated four several times, until their juices are nearly extracted. The grain which remains, not exceeding nineteen seers from a maund of goor, is then put into boilers, and kept simmering for about an hour and a half, when it is taken off the fire and thoroughly skimmed. When near cool it is poured into earthen pans, and left out for a night in the dew to harden; after which the seehala (a sort of green slime taken from jeels) is laid on the top of it, and a small hole made in the bottom of the pan, for the purpose of draining off the thinner juices that remain. The seehala cleans and purifies the sugar near the top, which after twelve hours is taken off and laid aside, and fresh seehala put to what remains. This is repeated daily till the whole is cleansed. The sugar is now ready, and requires only pounding, which is done between two boards. This is the process as described to me for making the common sugar, and the different degrees of fineness depend only on the boiling it more or less. The accounts given me of the produce of sugar from a maund of goor differ so much, that I am unable to form a judgment of what it may really be, but suppose from nine to ten or eleven seers, and more from the fresh juice.

2d. Of the Sugar-Cane.

There are two sorts grown in these aurungs, one called the cadjelah, the other the culluah, differing exceedingly from each other, the former being a strong thick cane of a dark colour: it is grown only in high ground, and yields a much larger produce than the other, and of a very superior quality. The latter is cultivated in low swampy lands, and will even thrive where the water rises to the height of two or three feet. It is a thin cane, of a lighter colour than the other, and shoots up to a very great height: the juice it gives is more watery, and is seldom made into sugar. As soon as the season will permit, I shall prepare and transmit to you samples made from these two sorts of cane, and at the same time lay before you any other information I may have collected.

3d. Mode of Cultivation.

The ground is first ploughed in October three different times, the same in November and December, after which it is well harrowed; and in January the plants are put in in regular rows of a cubit distance, and a space of about half a cubit left between each plant. The number of plants required to sow a begah of ground is computed at 7,000. Much labour is requisite in this cultivation, in weeding and keeping the plants free from insects, which collect in vast numbers, and if not quickly destroyed do great mischief. In each month of March, April, and May, the earth is turned up about the roots; and in July, when the shoots, four or five of which generally spring from each plant, are grown to the height of two or three feet, they are tied together so as to support each other, and the leaves entwined one with the other. The operation of weeding and destroying the worms is repeated as occasion requires, until the time of cutting the cane, which usually begins the latter end of December or beginning of January; and as they cut no more each day than they can extract the juice from, and there is not perhaps more than one mill for this purpose to a whole village, the fields are seldom cleared before the beginning of March. One bigah of ground is calculated to yield from thirty to forty maunds of goor, or more if the soil is favourable; and the profits to the cultivator, even at the low price the article has hitherto borne, are said to be very considerable, more than on any other article of cultivation. The revenue fixed on sugar-cane lands is from Rs. 3 4 to Rs. 2 10 per bigah, according to the quality of the ground. I do not learn that any particular impositions of zemindars exist that are likely to check the cultivation, but am given to understand that it might be increased very considerably. The quantity of land at present planted with the best sort of the cadjelah is estimated to be about 1,200 begahs, which is computed to yield from 9,000 to 10,000 maunds of sugar; and of the second sort of culluah about 3,000 begahs, or 53,000 maunds of goor. I do not, however, imagine this sugar will be approved, and shall not therefore purchase any quantity of the goor.

RICHARD BECHER, Resident.

Commercolly, 5th August 1792.

The

Bengal Board of Trade, Consultations, 4 Sept. 1792.

The following is a statement of the expense of cultivating sugar-cane, and of preparing sugar in some parts of the Burdwan Province, and at some places in the vicinity of Calcutta, as furnished by a native.

Statement from a Native Dealer.

ACCOUNT furnished by Seesooram Mosendar, formerly Gomastah at Sooksauger, of the Expense of cultivating Sugar-cane and preparing Sugar near Calcutta, and in some parts of the Burdwan Province.

Rannehattee and Amboah in Burdwan.

	S.Rs.	S.Rs.	S.Rs.
Rent, at an average*		3 0	
Layers for plants, each about eighteen inches long, 1 caun 8 puns or 1920	2 0		
Three ploughs and harrows four days	1 8		
Prepared mustard-seed for manure	1 0		
Planting	0 9		
Loosening the earth and putting it about the roots of the young plants	0 12		
Cutting the layers into joints, trenching the ground, and binding together the plants when grown	1 14		
		7 11	
Expense till the cane be ripe, exclusive of watering from time to time, in case the season should prove uncommonly dry			10 11
Labourers for turning the mill and boiling the juice	0 12		
One man for cutting canes, one for stripping leaves and cutting off ends, two for feeding the mill, one for attending the boiling to prevent juice boiling over, and one for carrying juice; six men at 1*a.* 6*p.* each	0 9		
Fire wood	0 4		
	1 9		
Which for five days, the computed time for gathering crop from a begah, is		7 13	
Proportion of expense of mill, shed, and pots		0 2	
			7 15
The produce will be fifteen maunds of goor, which will give six maunds of sugar at an expense for boiling, &c. of			18 10
			12 0
		S.Rs.	30 10
Value:			
Sugar, six maunds at Rs. 5 8	S.Rs. 33 0		
Chitta goor 7 maunds at 10 annas	4 6		
Plants or beeze, 6 cohuns	4 0		
		S.Rs.	41 6
		Profits	S.Rs. 10 12

Radnagore.

Rent	S.Rs. 4 0		
Other charges, as above	7 11		
		11 11	
Gathering crops for 4 days, at Rs. 1 9	6 4		
Proportion of expense of mill, shed, and pots	0 4		
		6 8	
		S.Rs. 18 3	
Produce:			
20 maunds of goor will produce 7 maunds of sugar, at an expense for boiling, &c. of		14 0	
		S.Rs. 32 3	
Value:			
Sugar, 7 maunds, at			
Chitta goor 11 maunds, at			
Plants (or beeze) 6 cohuns, at			

* Seventy-five covits make a begah in this pergunnah.

The original paper is incomplete, and does not state the value of the produce.

Boroh

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Boroh near Sulkee opposite to Calcultta.

Rent and other charges as at Radnagore.....	S.Rs. 11	11	
Gathering crops for seven days, at Rs. 1 9	10	15	
Proportion of expense of mill, shed, and pots.....	0	4	
			11 3
Produce:			22 14
14 maunds of goor will produce 5 maunds of sugar, at an expense for boiling, &c. of.....			10 10
			S.Rs. 33 8

The value not stated in the original.

Value:
Sugar, 5 maunds, at Rs. ... ...
Chitta goor, 7 maunds, at ... ...
Plants (or beeze) 5 cohunds, at ... ...

Kidderpore, two miles from Calcutta, on the same side of the river.

Rent .....S.Rs.	2	0	
16 ploughing and horrowings	2	0	
Plants*	5	0	
Planting	1	0	
Mustard-seed prepared, and fat earth	1	0	
Dressing and weeding.....	1	8	
Cutting layers, trenching the ground, &c.	3	0	
			15 8
Men to mill and to boilers, cutting canes, tending fires and boilers, and scummers, 13 men at 2 annas each, is 1 10, for five days.....	8	2	
Firewood.....	0	8	
Proportion of expenses for milk, shed, pots, 4 annas a day	1	4	
			9 14
			S.Rs. 25 6

Value not stated.

Produce:
15 maunds of goor.

This goor is reckoned very poor, and not capable of giving more than two maunds of sugar.

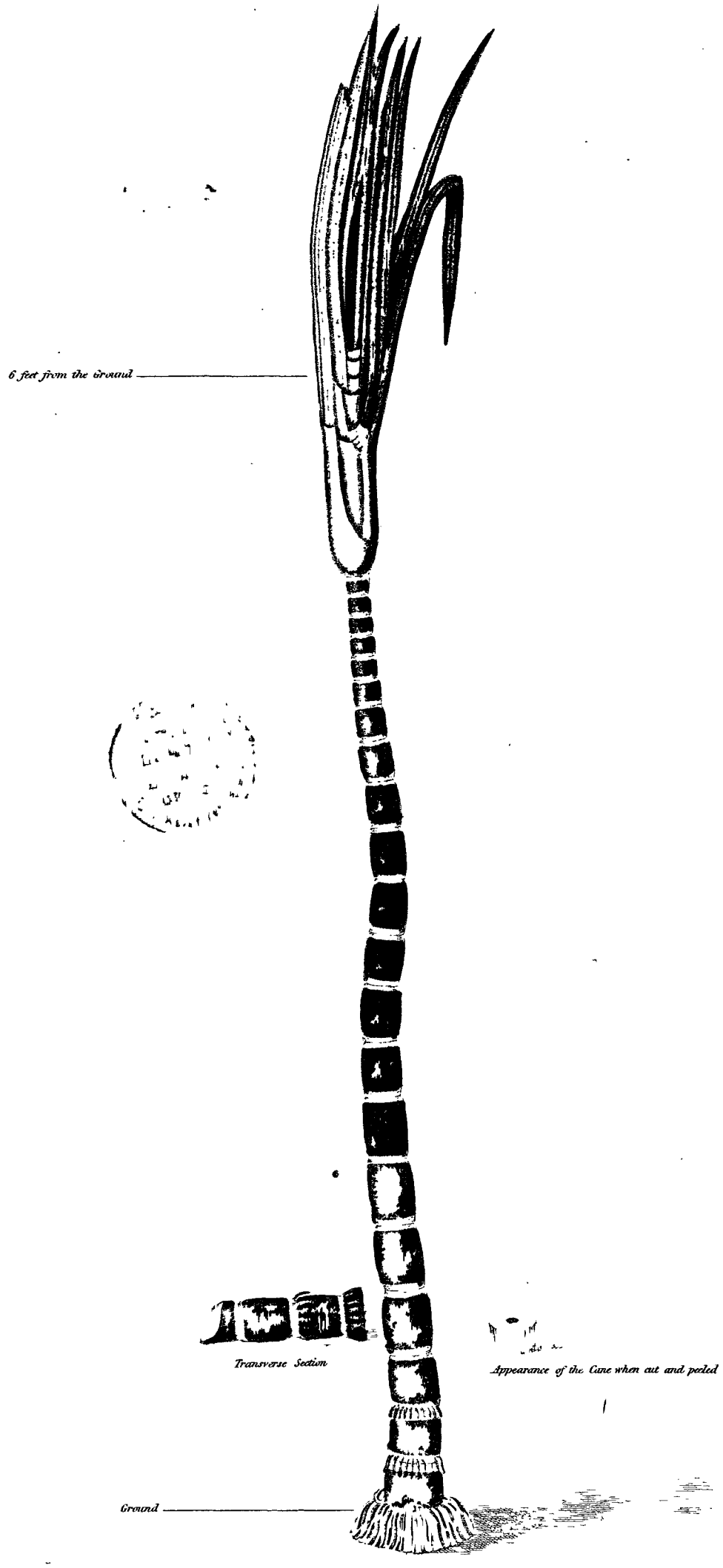
Many of the canes in this neighbourhood are daily cut from August till May, and sent to Calcutta market, where they are bought to be eaten in the raw state. Were it not for the consumption in this mode, it would hardly answer to cultivate the cane about Kidderpore. The canes which remain on the ground till they are fully ripe are cut and carried to the mill.

ESTIMATE of the Expense of the Cultivation of Sugar by a Chassa, working upon his own account, and possessing oxen and proper implements of husbandry.

Rent ..... S.Rs.	4	0		
Pressed mustard-seed.....	1	0		
Planting six coolies	0	9		
			5	9
The value of the produce is not stated in the original. 5 Labourers for turning the mill ..... And one for boiling juice half a day	0	12		
2 Ditto feeding the mill half a day	0	3		
	0	15		
Five days is.....			4	11
			S.Rs. 10	4

The

* N.B. The soil being unfavourable requires more plants.



TADJOOLEE SUGAR CANE.

The difference between the above and the other estimates arises from the man and his family working upon their own ground; consequently this difference goes only to the extent their labour is competent to.

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So contracted, however, are the circumstances of the generality of the peasantry, that few of them are able to raise sufficient funds for the culture of the cane. The dealers in goor do not choose to make advances till September or October, when they can judge how the crops will turn out. Unless there comes seasonable rains in those months, the produce will be so scant, that the advances will be endangered.

MINUTE OF THE BOARD OF TRADE,

4th September 1792.

Minute of the Board of Trade, 4 Sept. 1792.

The Board have much satisfaction in the intelligent information before them, respecting the raising of sugar in the countries immediately under the authority of this Presidency. It shews that the cultivation is in an highly improved state; that the husbandmen are possessed of much skill in dressing and manuring the ground for the cane, in changing the crops upon the same ground, in planting and managing the cane, in preparing the juice immediately that it be expressed, so that it may be delivered directly to the sugar-refiner, or be sent to a distant market, or be kept till an eligible purchaser may offer; that there are various modes of purifying the sugar; that the whole of the operations of cultivation and refinery shew ingenuity as well as skill; that the implements used are cheap and simple; that the various canes, the skill in culture, the modes of preparation of sugar, the general knowledge thereof, and the obtaining sugar from the date-tree, indicate that the manufacture was known here long before the nations of Europe or America ever heard of sugar.

The Board have a pleasure in further observing, that of the different sorts of canes, some are suited to the higher grounds and some to the lower They think that encouragement to the cultivation of the cane in both high and low grounds is advisable, that there may be an ample supply to the market in years of drought as well as over-abundant rain.

It is a circumstance favourable to this country, that in addition to the sugar produced from the cane, large quantities are produced from the date-tree. This sugar, though inferior to that of the cane, is certainly so good, that were no such thing in existence as the cane, it would answer at least for home consumption, and in all probability for foreign, all the purposes of the cane-sugar. The Board understand, that in Calcutta the price of soft sugar made from the date-tree was usually about twenty per cent. in the retail under cane-sugar of correspondent appearance: this serves to indicate the difference of estimation in which the natives hold it. A small quantity is going home upon the Ganges and Europe, which will afford the British refiners the means of ascertaining its qualities. Whether or not it may answer for exportation, it is certainly worth attention for home consumption, because little expense is requisite to raise the tree. The tree yields sugar for a number of years, appears to be hardy, and grows upon ground which would probably be otherwise unproductive, such as banks of tanks, boundaries of lands, road-sides, and spots about the houses of the villagers, to whom it affords a useful shade.

The Board now proceed to speak in a summary manner of the different sorts of canes, and of the cultivation and preparation of the sugar; but for more particular information upon these points, they refer to the letters above recorded from the different Residents.

Canes.

Of these as has been already mentioned, the sorts are various. They are cultivated as follows:

Cadjoolee,—A purple-coloured cane; yields a sweeter, richer juice than the yellow or light-coloured, but in less quantities, and is harder to press. Grows in dry lands; scarce any other sort in Beerbhoom, much in Radnagore: some about

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Santipore, mixed with light-coloured cane. Grows also near Calcutta; in some fields separate, in others mixed with pooree or light-coloured cane. When eaten raw, is more dry and pithy in the mouth, but esteemed better for sugar than the pooree, and appears to be the superior sort of cane. Persons who have been West-India planters do not know it as a West-India cane.

Pooree,—a light-coloured cane, yellow, inclining to white; deeper yellow when ripe and on rich ground. West-India planters say the same sort as grows in the West-India islands. Softer, more juicy than the cadjoolee, but juice less rich, and produces sugar less strong. Requires seven maunds of pooree-juice to make as much goor or inspissated juice as is produced from six of the cadjoolee. Much of this kind is brought to the Calcutta markets and eaten raw.

Cullerah.—This cane grows in swampy lands, is light-coloured, and grows to a great height. Its juice is more watery, and yields a weaker sugar than the cadjoolee. However, as much of Bengal consists of low grounds, and as the upland canes are liable to suffer from drought, as was the case last year, and in some degree with the present crop in May last, it may be advisable to encourage the cultivation of it, should the sugar it produces be approved, though in a less degree than other sugars, in order to guard against the effects of dry seasons. Experience alone can determine how far the idea of encouraging this sort may answer.

Punsaree, reonda, mungoo, newar, kiwahee,—Different sorts produced in the Benares district, but not known to the Board under these names. Probably some of them may be of the sorts already described; the Resident must therefore be desired to endeavour to inform himself of the correspondent Bengal names, if they be of the same sorts as grow in the lower provinces. The punsaree and reonda appear to be the most productive and the most esteemed.

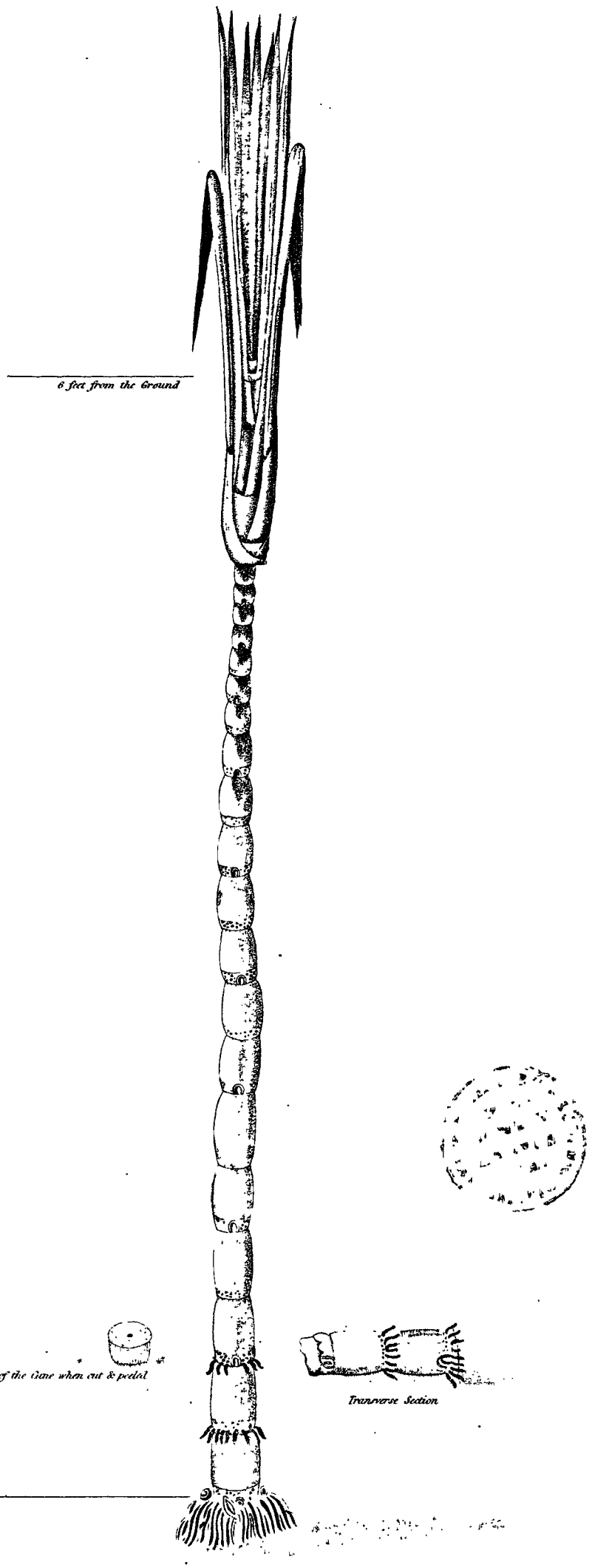
Cultivation.

Land frequently ploughed and dressed, manured with cow-dung and rich earth from bottoms of tanks or old houses, in the proportion of one-hundred bullock-loads of dung and fifty of rich earth, thrown into ridges about four inches high, and in some districts one and a half feet, in others two or two and a half feet asunder. The plants (tops of canes) placed therein after a fall of rain, three or four inches from each other, and covered: watered whenever necessary. When they are risen to a certain height, they are manured with mustard-seed from which the oil has been expressed. In Rungpore, and Dinagepore, the expressed mustard-seed and cow-dung are mixed with water, and this liquid manure used; earth thrown close to the roots of the canes as they grow up. When about four feet high, several plants are wrapped round, and tied together near the top with their lower leaves, stripped for the purpose. When at a further height, several of these bundles are tied together in the same manner; and these tyings are repeated as often as occasion may require till the canes are ripe. The tyings are said to be done for the purpose of preventing the canes from being laid by the wind. Young shoots are carefully removed; and in September, in Beerbhoom, the ridges are levelled.

The best soil for canes is a mixture of clay and a little sand, and that is not liable to be overflowed. In the low countries of Rungpore and Dinagepore, the ground intended for the cultivation of cane is raised by art four or five feet above the level of the adjacent land.

The plants are the tops of the canes cut off, where the juice of the stem is reckoned unfit for sugar. They are generally from a foot to eighteen inches long, and contain several joints, from each of which a shoot rises; but seldom more than one or two arrive at a proper growth.

When first cut from the stem, the tops intended for plants are tied in bundles of forty or fifty each, and are carefully kept moist. In a few days they put forth new leaves: they are then cleared of the old leaves and separately dipped into a mixture of cow-dung, pressed mustard-seed and water. A dry spot is prepared, and rich loose mould and a small quantity of pressed mustard-seed. The plants are separately placed therein, a small quantity of earth strewed amongst them, and then covered with leaves and grass



POOREE SUGAR CANE.

grass to preserve them from heat. Ten or twelve days afterwards they are planted in the fields.

In Burdwan, the tops, before they are planted, are cut into pieces from four to six inches long, so that there are not less than two nor more than four knots in each. Two or three of these plants are put together when planted, and a bega requires from 7,500 to 10,240 plants.

In Rungpore and Dinagepore, about 9,000 plants are required for a bega; each being about a foot in length.

In Beerbhoom, 3,000 plants are said to be requisite for a bega, each plant being about fifteen inches long.

Near Calcutta, from 3,000 to 8,000 plants are required for a bega, according to the goodness of the soil; the worst soil requiring most plants.

In Rungpore and Dinagepore the husbandman begins to prepare his ground in October, and plants in February. He begins to cut in October and November; but the canes are not then ripe, and the juice will make only patellee (thin) goor. This is made up into a hard substance and sold for common uses, chiefly mixed with tobacco, &c. for smoking. The canes are ripe in January, February, and March. Near Commercolly, the land is first ploughed in October, and is planted in January.

In the western countries, Beerbhoom and Burdwan, the land is begun to be prepared in December and January: the plants are put into the ground in April, May, and June. The canes are ripe in January.

It is deserving of notice, that the eastern and north-eastern parts of Bengal are more subject to rain at every season of the year, but especially in the hot months, than the western, which accounts for the land being prepared and the plants set so much earlier in Rungpore than in Beerbhoom. This latter country has also a drier soil generally: for this reason, so much is said in the Report from thence of the necessity of watering.

The Benares country is also drier than Bengal, therefore more waterings are requisite.

Near Calcutta they plant in May and June, and begin to cut for sale in the bazar, to be eaten raw, so early as August; but no canes are ripe till late in January: more are ripe in February and March, and some not till April.

Profit.

It appears from what has been said that the cultivation is expensive; and though the accounts from different quarters shew, that sugar is in Bengal more profitable than any other produce except mulberry, and in Benares more profitable than any except cotton, the returns are slow, and consequently require that the husbandman should be possessed of a good capital or stock, to enable him to defray the expense, to wait the slowness of returns, and to pay a heavy interest for loans he may be obliged to take up, and to be able to bear the loss in case the crop should entirely be destroyed by unfavourable seasons, a risk to which it appears liable.

Changes of Crop.

The following appear to be the changes of the crop upon land fit for sugar, and they are made at the discretion of the husbandman: sugar-cane, ooos (early rice), cotton, mustard-seed, moong (a kind of vetch), and other dry grains of the vetch kind.

In Rungpore and Dinagepore, sugar is grown upon the same land but once in three years; in Beerbhoom, sometimes every other year: in that case cotton cannot be one of the changes, as the interval of time will not admit. When sugar-cane is planted every other year, a greater quantity of manure is necessary.

Making of Sugar.

Bengal mode. The cane being ripe from January to April, the husbandman cuts it down and expresses the juice by means of the mill. The juice is immediately boiled in earthen pots, six to sixteen of which are placed in a line over a fire-place made in the ground, and shifted from one to the other, at the judgment

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judgment of the boiler, till it be sufficiently inspissated. Sometimes a small quantity of ley made from plantain ashes is used. In this state it is called *goor*. There is not any correspondent English word for this. Europeans confound all liquid preparations of the cane-juice, whether *goor*, syrup, or molasses, under the general name of jaggry.

In Rungpore a large iron pan is used instead of earthen pots, to boil the juice into *goor*.

The mill in Burdwan and near Calcutta is simply two small wooden cylinders grooved, placed horizontally close to each other, and turned by two men. Those who have been accustomed to the large mill in the West-Indies, are apt to treat this simple engine with great ridicule; but it completely, though slowly, expresses the juice. It is very cheap, the prime cost not being two rupees, and is easily moved from field to field, which saves much labour in the carriage of the cane. Iron cylinders have been brought from England, and mills in the West-India manner worked with horses or cattle, set up here;* but it is said the expense attending them caused them to be dropped. It was found that a number of Bengal mills, sufficient to express the same quantity of juice, did the business cheaper than the West-India mill.

In Beerbhoom, Rungpore, and Benares, the same sort of mill is used to express the juice from the cane as is used to express oil from mustard-seed: it is a large wooden or stone mortar, with a rolling pestle turned by oxen. For a more particular account, the Board refer to the letter of the 10th February from the Resident at Rungpore. The canes must be cut into small pieces ere they be ground in this mill.

Which of the two mills is most advantageous does not appear, nor what circumstances have occasioned one to be in general use in some parts of the country, and the other in other parts. It is probable there is not any great difference in their effects; or as the oil-mill is in common use near Calcutta, the cylinder would have been wholly laid aside.

The cattle-mill will express about thirty-two maunds of juice daily, and this produces about four and a quarter maunds of best goor.†

The goor goes to the myrah (boiler), and he purifies it by different processes, according to the kind of sugar he wants to produce. The general process is by boiling the goor.‡ In some places the molasses are first drawn off from the grain, and the goor is then boiled, mixed with water, or milk and water, and purified; in others the goor is only boiled and purified. Milk, lime, and ley from plantain ashes, are used to cleanse and granulate the sugar. When boiled sufficiently it is put into earthen pots, and two particular sorts of aquatic weeds§ are used to drain off the syrup, as clay is by the Europe refiners. In Rungpore and Dinagepore, clay as well as weeds is used to draw off the syrup.

The sugar thus prepared is called cheenee; and in this state is the greater part of what is sent to Europe and America.

At Santipore, the goor is put into baskets; first into some of a close texture, then into some of a wider, till much of the chittee goor (molasses) has run off: the aquatic weed is then used to purify it still further. What remains in the baskets becomes hard and dry, and is called dowloa: in this state it goes to the market. Cheenee is made from dowloa.

Benares mode. In the Benares country the process is different. The cane-juice is boiled in flat iron pans, and stirred and skimmed, and some milk added thereto till the grain appears formed. The pan is then taken from the fire and placed on the ground, where the liquor is again well stirred, till it cools and forms into a coarse sugar called bhelee. This is scraped together and laid out on cane-leaves, cloth, &c. for use. From the bhelee the sugar-boiler prepares the chenee, by several clarifications and frequent treadings in the sun.

In

* At Sooksagore and at Omidpore.

† It must be estimated that a cattle-mill will produce equal to seventy-five or eighty pounds of sugar (cheenee) per diem. The maunds here spoken of are fifty-eight and a half of sicca-weight per seer.

‡ See Coonamooky letter.

§ An alkaline quality is attributed to these weeds.

In this country there is also another process of making sugar.

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The cane-juice is strained into earthen vessels, in which it is collected through the day, and in the evening it is simmered a little over a fire, to preserve it in that state to mix with the night's produce, treated in the same manner. It is then slowly boiled in a deep iron vessel, and some of the simmered juice is gradually added, the whole being well mixed and skimmed while boiling till the grain be properly formed. While rather liquid, it is poured into earthen vessels sunk into the ground, where it is well agitated and cooled. To clarify the goor, the juice of a plant called doola is sometimes used, in the way milk is used for the bhelee. From the goor a coarse sugar, called shucker, purer than the bhelee and inferior to the chinee, is made, by the goor being put into a coarse sheet, and squeezed or pressed till the molasses drip from it. This sugar is then exposed to the sun and set aside for use.

The sugar-boilers make refined sugar from the chinee. The principal ingredient for purifying the chinee appears to be milk, or milk and water.

IMPROVEMENT.

The Board, in the introductory part of this Minute, have expressed their opinion that the cultivation of the sugar-cane is in a highly improved state, and that the husbandmen are skilful. This opinion is formed, not only from the papers now recorded, but also from their own observations during their residence in this country, and from conversation with the husbandmen upon the cane-fields. But they desire to be considered as speaking abstractedly with respect to this country, not comparatively with the cultivation of other countries, of which the Board have not any official information or knowledge as individuals, other than what is derived from reading, or from casual conversations with persons who have been in the West-Indies.

Attempts have already been made by individuals to cultivate and manufacture sugars in the West-India manner, upon a large scale, and a great expense was incurred at two places not far from Calcutta, in mills, mill-houses, and other buildings: but they both failed; whether from mismanagement or ignorance of the agents of the proprietors, or from what other cause, it is not in the power of the Board to assert. A very respectable society of merchants, who made one of the attempts, appear, by a representation they laid before the Governor-General and Council, which contains much valuable information, to have thought the agriculture of Bengal in a much lower state than it really is.

It is worthy of observation, that the projects of several Europeans in different pursuits, have in the outset laboured under a great disadvantage, of much money being sunk in buildings and in expensive establishments; and that this has been one principal cause of the failure of most of them.

In the Minute the Board recorded on the 7th August 1792, respecting the commerce of sugar, they argued that, from the different state of society, this country could raise sugar cheaper than the West-Indies, and they noticed advantages which the cheap and simple implements used by the natives gave over the expensive structures of the West-Indies; and to these they beg leave to refer.

The Court of Directors have made a contract for sugar with Lieut. Paterson, who has been represented to them as being well skilled in the cultivation and manufacture of sugar, according to the most approved methods in use in the West-Indies. When Mr. Paterson shall have delivered a quantity of sugar upon the terms of his contract, the Board may draw some inferences of the advantages he may derive from his West-Indian skill; but as Mr. Paterson is merely a contractor, he is not bound to communicate his knowledge, consequently his project may not lead the Board to any certain conclusions.

Fair experiment is the only mode to determine whether the methods of this country or those of the West-Indies be preferable; and if the Hon. Court of Directors approve, an experiment may be made under the agency of persons who have been in the West-Indies. If it succeeds, the superior method may be made generally known; and if it be tried upon a moderate scale, a great

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sum cannot be lost thereby, and the matter will be determined. The Board do not recommend the experiment with any sanguine ideas of success, but merely that the point may be brought to issue.

In regard to the purifying the material after the husbandman has done with it, and to the refining the sugar, the Board are more diffident as to the skill of the native boilers and refiners compared with that of Europeans; but they see, by the papers now recorded, as well as by the sugars produced, that there is much skill among them. Various sorts of sugar have been sent to England last season, and more are going this. The judgment of professional persons may be taken thereupon; and the Board think it may be of use if they were to be furnished with some of the material in the lowest stage of preservation, that of the goor: some may accordingly be sent by the next ship.

The Resident at Radnagore is the only person who has intimated any attempt at improvement. What he suggests, the Board observe, appears to be the West-India mode; and though they are not sanguine, they are willing to let some small experiments be made by him, as far as the cultivation of fifty or one hundred begahs of cane, but without the expense of buildings. For their further sentiments on this subject they refer to their letter to him, which they record in the latter part of this day's proceedings.

In fine, the Board say that, though they are impressed with favourable ideas of the culture of the sugar-cane in these provinces, they do not presume that it is at its acmé. Vain and arrogant indeed is the man who pronounces that human skill, in any art or science, is at this day perfect. Should any improvement which may appear feasible be suggested, the Board will with pleasure attend to it.

Produce.

The Board will first state, from the documents before them, the quantity of sugar produced from a begah, or, to render it more familiar in England, from an acre.

The Resident at Santipore says that six or seven maunds of juice produce one of goor. The Resident at Soonamooky, thirty-two maunds of juice four and a half of goor. These agree so nearly that they may be presumed right.

Benares. The begah* produces from eight to fourteen maunds of bheelee, and four maunds of bheelee one of chinee, first sort. The Benares maund is ninety-six Benares sicca-weight, equal to one hundred Calcutta sicca-weight; therefore

The lowest produce will be,					The highest produce will be,				
Per Benares Begah.		Per Acre.			Per Benares Begah.		Per Acre.		
	Seer.	Cwt.	qrs.	lbs.		Seer.	Cwt.	qrs.	lbs.
Facty. Mds. 2	30.....	2	1	22	Facty. Mds. 4	32 8.....	4	1	3

Rungpore. A begah,† supposing the soil and season favourable, is computed to produce from fifteen to twenty maunds of goor of sixty-eight sicca-weight to the seer; and one maund of goor to give about nine or ten seer of the first sort of sugar; therefore

The lowest produce will be,					The highest produce will be,				
Per Bengal Begah.		Per Acre.			Per Bengal Begah.		Per Acre.		
	Seer.	Cwt.	qrs.	lbs.		Seer.	Cwt.	qrs.	lbs.
Facty. Mds. 3	6.....	6	1	5	Facty. Mds. 4	27.....	9	1	11

Soonamooky.—Beerbhoom. A begah,‡ in ordinary seasons, will produce twenty-eight maunds of goor of sicca-weight 58 10 to the seer; and one maund of goor thirteen seers of sugar; therefore the produce will be

Per Bengal Begah.			Per Acre.		
Maunds.	Seer.		Cwt.	qrs.	lbs.
7	14	.....	14	3	0

Radnagore.

* The size of a begah in this zemindarry is a square of one hundred and twenty covits or sixty yards, and consequently contain 3,600 square yards, which is to a Bengal begah as 2,25 to 1.—

† The Bengal begah is usually a square of eighty covits, or forty yards, consequently contains 1,600 square yards.

‡ Begah 1,600 square yards.

Radnagore. The produce of a begah is stated to be nineteen maunds of goor of eighty sicca-weight to the seer; and the Board understand that one maund of goor will produce twelve and a half of ekbarra sugar or chinee; therefore the produce will be,

Per Bengal Begah. Maunds. Seer.	Per Acre. Cwt. qrs. lbs.
6 11	12 2 6

Santipore. A begah is estimated to produce from ten to twelve maunds of sixty sicca-weight; and the Board understand that a maund of goor will give thirteen seer of dowloa; and a maund of dowloa will give thirty-five seer of boora chinee; therefore of dowlea

The lowest produce will be,

Per Bengal Begah. Maunds. Seer.	Per Acre. Cwt. qrs. lbs.
2 27	5 1 13

The highest produce will be,

Per Bengal Begah. Mds. Seer. Ch.	Per Acre. Cwt. qrs. lbs.
3 8 13	6 0 10

made into chinee will be one-eighth less.

Seesoram Mozendar's Account of the Produce of the under-mentioned Places,

Rarreehullee and *Amboa* in *Burdwan*, produce fifteen maunds of goor from a bega,* which will give six maunds of chinee of eighty sicca-weight.

N.B. The goor of this pergunnah is reckoned remarkably good.

Per Begah of 80 Covits. Seer.	Per Acre. Cwt. qrs. lbs.
Facty. Mds. 7 0	14 0 0

Radnagore. A begah will produce twenty maunds of goor, which will give seven maunds of chinee at eighty sicca-weight.

Per Begah. Maunds. Seer.	Per Acre. Cwt. qrs. lbs.
7 28	15 1 16

N.B. This account exceeds the Resident's, but the natives esteem the Radnagore sugar more than any other. The pergunnah of Duan Balligunge in Midnapore, about five coss from Radnagore, is said to produce the best sugar in the country.

Boroo Pergunnah, near *Sulkee* opposite Calcutta. A begah will produce fourteen maunds of goor, which will give five maunds of chinee.

Per Begah. Seer.	Per Acre. Cwt. qrs. lbs.
Facty. Mds. 5 10	11 0 0

Kidderpoore is not taken into calculation, as the canes are grown for the daily supply of the Calcutta market, and the soil is not well adapted for cane.

The Board observe, that the highest produce of cane-land in Benares is much less in quantity than the lowest above stated in Bengal. It is possible there is some mistake in the information received from the Resident: they will notice the circumstance to him. At the same time they remark, that the natives reckon the Benares sugar to have less strength than the Bengal; and they understand that in experiments made in Calcutta on goor from Benares and from different parts of Bengal, the former gave little or no sugar, the latter its due proportion. But these experiments cannot be considered as conclusive, without it were to be ascertained in what month the goor was made, and in what repute the natives held it. Was an experiment to be made on the patelee goor from Rungpore, which is gathered in October, no sugar would be produced.

The land about Santipore appears to yield less sugar than any other place mentioned. It is within the knowledge of the Board that the soil in that part of the country, and in general of the large zemindarry of Nuddea, is sandy, light, and poor.

The Rungpore and Dinagepore lands stand at less produce than those of Burdwan and Beerbhoom; but the computation is formed only upon the awul khaf, or the sort of chinee which is more purified than the ekbarree of Beerbhoom

* Bega, a square of seventy-five covits.

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Beerbhoom and Burdwan; consequently without the sugar is in the same state, an exact comparison cannot be formed.

The same observation applies also to any comparison that may be endeavoured to be formed between the foregoing statements of the produce of an acre in these provinces and of an acre in the British West-Indies, from whence almost the whole of the sugars are exported in the muscovado state. The Board understand that West-India muscovado sugar loses about one-third of the weight by claying; and as the West-India clayed sugars are said the most to resemble the chinee of this country, some comparison may be formed between the produce of an acre in this country and in the West-India islands. Many acres of plant-canes in the West-India Islands are said to yield 5,000 pounds of muscovado sugar: deduct one-third loss of weight by claying, *viz.* 15 cwt. 44 lb., and there will remain 29 cwt. 86 lb. This, even allowing for the difference between clayed sugars and cheenee, is so much beyond the highest Bengal produce, that it marks something extremely favourable in the soil of those particular lands. But the general produce of the West-India Islands is said to average not more than one hogshead of fifteen hundred-weight to an acre: deduct one-third loss of weight by claying, and the produce will be ten hundred-weight per acre. This, allowing for the difference between the clayed sugar and cheenee, may be rated at about equal to the produce of the Rungpore and Dinagepore districts, and below those of Burdwan and Beerbhoom, which are the chief districts in Bengal Proper that produce sugar for exportation.

GENERAL PRODUCE.

The Board deem it proper to communicate to the Honourable Court such information as they are now possessed of, as well from the materials before them as from their individual knowledge; though they observe that the Reports which will be made in answer to their request of the 7th August to the Governor-General in Council, will enable them hereafter to speak more satisfactorily upon this head.

Benares. The Resident has not stated any produce; but the Board have information, which they consider to be authentic, that there has been exported from Ghazepore into Bengal, since the month of April last, of the produce of Serrai Ghazepore, one division of the Benares zemindarry, including what has been exported upon the account of the Company... 35,000 maunds.
And from Mirzapore and the neighbourhood of Benares... 12,000

		Factory mds.
Benares maunds...	47,000	being 64,575
The Company's proportion was...	7,500	maunds.

The imports into Calcutta of Benares sugar will, the Board imagine, exceed the above; but the custom-house entries call all the sugar from Oude and the Doab, Benares sugar, and of what may have been brought from those countries the Board have no information.

Rungpore, including all the sugar known by the name of Goragaut.

First sort, cheenee	40,000	maunds.
Second ditto	25,000	
Third ditto.....	10,000	
		75,000

The consumption in the district is about three thousand maunds.

Radnagore. The Resident says that jaggree, to the value of S.Rs. 2,50,000 is produced, three-fifths of which are consumed in the district. He states the average value of the goor or jaggree to be S.Rs. 1 12 per maund. Computing on this value, and that one maund of goor will give thirteen seers of ekbarra sugar, the produce would be Bazar Maunds 46,433. This seems greatly over-rated, even allowing for the provincial consumption; for if it were so high, much more of the Radnagore sugar would come to the Calcutta merchants,

Carried forward..... 75,000

(especially

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Brought forward. Maunds	75,000
(especially at the present excessive price) than there actually does. Probably the produce does not exceed	30,000
Soonamooky. Produce computed from Beerbhoom in particular, *i. e.* exclusive of Bissenpore; (no account of provincial consumption nor any account of Bissenpore produce).....	15,500
Santipore. The Resident estimates that 36,000 maunds of goor are produced. Supposing this to be manufactured into dowloa sugar, it might be computed to give ..... (2,000 maunds of sugar are exported, the rest is consumed in the district)	11,700
Commercolly. The Resident computes that of the cadjoolee, or best sort of cane, the produce of sugar is from 9,000 to ..... and that 53,000 maunds of goor are produced from the culluah, a particular sort of cane reckoned inferior. The Board have not any grounds whereon they can compute how much sugar this goor will yield...	10,000 —
Bengal cane-sugar..... Maunds	142,200
Add: Date-tree sugar provided in Burron ..... (of this about 3,000 maunds are used in the district).	15,000
Bengal sugar..... Maunds	157,200

The Beerbhoom, Goragaut (Rungpore), Radnagore, and Benares sugars, are the only cane-sugars that have any name in the Calcutta markets; or rather those countries are the only districts which produce sugar in quantities beyond their immediate consumption, so as to supply the great towns, and the small export trade there has heretofore been from Bengal. But the cane is grown in all the inhabited parts of the country, where the soil is not too poor, or the lands liable to be inundated, and is eaten by the natives raw in large quantities, and the produce used by them in every stage of preparation. A great deal of cane is raised near Calcutta, on the other side the river, and some upon this; yet it is not considered of any note, nor can any good account be readily obtained of the quantity. The same observation applies to every part of the country. It seems to the Board, that the following points will form the best criterion to judge of the state of the sugar commerce in Bengal.

First. The price current, compared with the usual price previous to the exportation to Europe and America.

Second. The quantity exported by sea.

Third. The quantity imported into Bengal from Benares.

Fourth. If possible, the quantity imported into the Benares zemindarry from Oude and the Doab.

It remains to speak of those parts of the produce of the cane-juice that are not formed into sugar, or are not lost in purifying the juice. These may be divided as follows:

Pattellee goor, i. e. thin and hungry inspissated juice, from which sugar cannot be made, either because the canes have been cut too early, or because the soil is too poor and seasons too unfavorable to give heart to the juice.

Cootrah goor, *maht* or *maut*. These names are used indiscriminately; but the former seems rather to signify the drainings of the dahnadar goor when it is strained, previous to its being boiled into cheenee, and answers to the West-India molasses; the latter, the drainings from the cheenee or refined sugar, and answers to syrup or treacle.

They are chiefly consumed in the following uses.

In smoaking, by being mixed up with tobacco: and from the multitude of people in this country who smoke this mixture, the consumption in this mode must be very considerable.

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By being mixed with parched rice and other grain, and eaten, especially by labouring people, in that state. Much must be consumed this way.

Various kinds of sweetmeats are made of goor in every town and village in the country, especially at festivals. It must be observed, that sweetmeats are not consumed in this country, as in Europe, merely as a gratification of the palate; but as grain and flour enter into their composition, they form a nourishing food, and are used accordingly. It is said that only the dahnadar goor (goor from which the grain has not been separated) should be used in sweetmeats, but it is probable that much molasses are substituted for it.

In Cement for Masonry.—The natives say it adds greatly to the strength of the cement, and constantly use it in pucka-work if not forbid. To whatever cause it be owing, certain it is that the pucka masonry, erected in the proper Bengal manner, is wonderfully strong and durable, and equal, perhaps superior, to that of the ancients. The pucka masonry which the Europeans in this place have adopted for cheapness, though good compared with London masonry, is much inferior to the pucka of the natives.

In Distillery.—For these fourteen or fifteen years past rum has been distilled by Europeans in considerable quantities, and is said to be good, though it has not the reputation of the Jamaica rum.* The European troops at this presidency, sometimes those at Madras, and the King's ships, are supplied with it. Half dahnadar goor and half cootrah goor are said to form the best material for distillation. Great quantities of spirits are distilled from goor, and sold very cheap by the natives, by means of a simple apparatus comprized of earthen vessels, and a bamboo for the pipe or neck: some Europeans are said to distil after the same manner. There is a great consumption of spirits in Calcutta. It is within the memory of the individual members of this Board, that the vice of drunkenness has greatly increased among the lower order of natives in this town. This is, in a great degree, to be attributed to the operation of the Supreme Court of Judicature, who soon after their arrival rendered nugatory the Regulations of Government respecting the licensing retail spirit shops; since that time, any person has the uncontrolled privilege of injuring the health and morals of the people, by the vend of the new and bad spirits.

Increase of Produce.

This is the most material and primary object of attention; for till it be effected, the markets of Europe and North America cannot be supplied, without intruding upon the export to other parts of India, or, what is more material, upon the home consumption, as is the case at this moment, when sugar, in consequence of the sudden and eager speculations for Europe and North America, is near double its usual price in Calcutta, to the discomfit and inconvenience of the native consumers.† This, however, is to be considered temporary; for it is an axiom in political economy, that the supply will be in proportion to the demand, when human industry can attain it. The natives of this country are very industrious, and will naturally apply themselves to the raising of that commodity in which they have skill, and which will afford them a ready and good profit. The operations of the Board can only be directed to point out to the notice of Government any moral causes which may impede their labours, and to assist them, when expedient, with the means of exercising their industry. The points of inquiry which, on the 7th ultimo, they requested the Governor-General in Council to refer to the Collectors, had these purposes in view, and till the replies be received the Board's deliberations must be imperfect. In the present stage of the business it may be useful to observe, that the papers recorded upon this day's proceedings shew that sugar is not only a laborious but an expensive cultivation, and liable to failure

* Messrs. Lambert, Ross, and Co. advertise, that they will deliver best rum on board any ship in the river at eleven annas per gallon, all expenses included. See Calcutta Gazette 30th August 1792. Eleven annas sicca at 2*s*. 4*d*. per sicca rupee is 1*s*. 7½*d*. This rum is said to be 20 per cent under London proof, and to be not more than eighteen months old.

Messrs. Barretto's, proprietors of the Sooksagore estate, and considerable merchants, sell rum which they say is ten per cent. under London proof, and near three years old, in casks, at one sicca rupee, or 2*s*. 4*d*. per gallon; without casks, at fourteen annas or 2*s*. 0½*d*. per ditto.

† Usual price from Sicca Rupees 6 8 to 8; present price 12; retail price about 13 per Bazar maund.

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failure after a considerable charge has been incurred in dressing and manuring the land.* Cultivation, under such circumstances, requires not only a farmer's stock to make it advance rapidly, but capital to bear the eventual loss; or the adventurer puts himself into the situation of a desperate player: playing, it is true, with chances greatly in his favour, whom an unlucky throw ruins for ever. Prudent men with slender means will be cautious, while those whose means are still narrower may be wholly prevented. The generality of the peasantry are in a beggarly state. The information given by Sesooram Mozandar shews that many of them are prevented by the narrowness of their means from cultivating the cane; and the letters from the Residents at Rungpore and Soonamooky corroborate this, by setting forth the heavy interest charged by the myrahs, or merchants who make advances to the peasants after the crop is grown.

The soil and climate of Bengal are highly favourable to the produce of sugar. The raising the article in abundance will be eminently advantageous, as the Board, in their proceedings of the 7th August, have largely shewn; but the cultivators want stock. This then should be furnished; but whether it be expedient to do this mediately or immediately, is an object of inquiry. Different Residents have entered into the subject, but the desire of sending this day's proceedings to Europe by the Ganges, causes the Board to suspend their determination upon this particular till after her dispatch.

The Resident of Rungpore has noted, that cane is begun to be cut in October before it is ripe, and this he attributes to be, in a great measure, owing to the pressure of demands upon them. In this case, advances might cause them to let the canes stand till they are mature, and of course produce sugar in place of an imperfect material. Other considerations are, however, necessary to advert to. For these, and their particular sentiments upon this point, the Board refer to their letters to the Residents, recorded in the latter part of this day's proceedings.

As the cane in the Beerbhoom country is particularly liable, upon account of the aridity of the soil, to suffer for want of water, and as the quality of the sugar of this district is much esteemed, the Board think it proper to desire the Resident to inform them, from his own observation and from creditable information, of the state of the tanks and wells, or any other artificial means of procuring water within the circle of his business; and, should they be in a state of neglect or decay, that he will state the cause thereof.

The Board, in their proceedings of the 7th August, have said, that Bengal is capable, with fair encouragement, and allowing the time necessary for increase of produce, to export sugar to a great extent. They will now, merely as a speculative though not useless inquiry, endeavour to compute what number of acres of arable land it will require, (beyond what may already be cultivated for internal consumption and for export to other parts of India, to Persia, and Arabia,) to supply as much sugar as is stated to be the produce of the British and French West-India Islands. The data that are within their power, so far as respects the West-Indies, appear to be better founded than could be expected in a subject of so wide and general a nature, owing to the great attention that has been given to the subject in London.

The import into Great Britain hardly averages so much as 2,000,000 cwt. of raw sugars. In some years it has exceeded it, but the Board assume this as the produce of the British West-India Islands...cwt. 2,000,000

Deduct one-third, to reduce them to the state of clayed sugars, which comes nearest to the Bengal cheenee	666,666	
		cwt. 1,333,334
It appears that there have been entered for exportation in 1788 (the most considerable year) from the French port of St. Domingo, clayed sugar..... French pounds	70,227,709	
Carried forward...lbs.	70,227,709	cwt. 1,333,334

* In May and June a considerable number of cane-fields in Beerbhoom were burnt up by the drought and great heats, which lasted till the 18th or 20th June.

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Brought forward...lbs.	70,227,709	cwt.	1,333,334
Also of muscovado or raw sugar...	93,177,512		
Deduct one-third as above.....	31,059,170		
	62,118,342		
Total clayed exported	132,396,051		
French pounds are heavier than English by eight per cent.; add therefore	10,587,684		
English pounds	142,933,735		
Or cwt.	1,276,194		
St. Domingo is reckoned to produce two-thirds of all the French islands: add	638,097		
Estimated produce of the French islands reduced to clayed sugar			1,914,291
		Total cwt....	3,247,625

The foregoing statement, it must be observed, allows nothing for sugars carried direct from the British West-India Islands to Ireland; nor, on the other hand, does it notice the quantity imported into Great Britain from Portugal; nor what may be clandestinely exported from the French West-India Islands and imported into Great Britain as the produce of our own islands; nor does it shew whence North America draws its sugar, though it is known to procure them principally from the British or French West-India Islands: all which circumstances make great variations, that the Board have not any means of computing.

The difference between clayed sugars and cheneee, it has been before observed, is unknown to the Board; but as they are the nearest in comparison of quality, take the nearest medium in round numbers of that which is stated to yield the least per acre of the chief Bengal sugar aurungs, Goragaut (Rungpore), &c. and call it eight hundred-weight produce per acre,* and it will require to produce a quantity equal to the British and French West-India Islands, 405,953 acres, or 678 British square miles.

It may be presumed that, in consequence of the increased cultivation, manure, especially the manure of pressed mustard-seed, will become more difficult to be procured, and that lands of a less favourable soil than those now used will be planted with cane, and that therefore the average produce per acre will be less than it is now. Suppose the average to be only five hundredweight of chenee per acre, which is surely low, then it would require, to yield as above, 649,525 acres, or 1,015 British square miles.

Instead of making these computations upon a scale of clayed sugars, try them upon muscovado.

British raw sugar, as before		cwt. 2,000,000
	English cwt.	
French clayed	1,914,291	
Add, to render the weight equal to muscovado one-half	957,145	
	French muscovado	2,871,436
Total British and French produce in muscovado or raw sugar, cwt.		4,871,436

State also, what the documents recorded on this day's proceedings support, that an acre of Bengal sugar land produces equal to the average of West-India land, *viz* fifteen hundred-weight per acre, then it would require 324,762 acres, or 507 British square miles.

But as, from the causes just assigned, the average may decrease, and in order that the computations may be moderate, say that an acre of Bengal land

	cwt.	lbs.	
* Rungpore, lowest.....	6	33	per acre.
Ditto highest	9	39	
			cwt. 15 72—of the first quality of chenee.

land will give only half the produce of a West-India acre, then it will require 649,525 acres, or 1,051 British square miles, as before.

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Bengal, Behar, and the Company's part of Orissa, contain 149,217 British square miles :* any body who knows this country will immediately admit, that after allowing for the lighter soils which are not adapted to sugar-cane, as the greater part of Nuddea, the lands annually regularly inundated, the spaces taken up by lakes and rivers, the woods of Tipperah, the wilds of Ramgur, Palamow, Choota Nagpore and adjacent countries, and those parts of the Sunderbunds which are never likely to be cultivated, the additional culture of 1,015 square miles of good arablel and in sugar for exportation would not occasion any inconvenience to the inhabitants, by intruding upon land requisite to raise grain, cattle, materials for clothing, and houses, and for every necessary of life used by them; though sugar be raised upon the same spots but once in three years, and that of the 1,015 square miles, an addition of a quarter be made for the intervention of towns, gardens, roads, paths, tanks and boundaries. The single province of Burdwan contains 5,174 square miles, and almost the whole of these are proper for cane.†

The zemindaree of Benares is not taken into the above computation, but the produce of sugar therein is very considerable and much thereof comes into Bengal; a great deal goes from thence into Hindoostan and the Decan. Its situation is convenient for export to the whole of the former, and most of the inland parts of those extensive countries. Though the Board are strenuous for supplying the European and North American markets with sugar from hence, they do not want to dry up the existing channels of commerce in India.

DATE-TREE SUGAR.

In the introductory part of this Minute, the Board have expressed their sentiments of this sugar, and to these they refer. The quantity produced of this sugar they have also stated to be about 15,000 maunds.

The tree is raised from the stone of the fruit: it grows for about thirty years, and the height varies; according to the nature of the soil and the care taken of it, from twelve to between thirty and forty feet. The juice is first extracted for sugar when the tree is about seven years old and about four feet high: it is drawn only during the cold season from November to February. The tree will give juice annually for twenty or twenty-five years. One tree will yield from one and a half to three maunds of juice or two and a quarter maunds at an average; which, when boiled down, will give about seven seers of goor, and a maund of goor about nine seers of chenee. The general calculation is, that twenty-five trees will produce a maund of chenee in the season.‡

The tree is generally left to nature, but may be improved by the ground about the roots being opened and fresh ground added.

A revenue of from four to six rupees per annum is paid upon one hundred trees. This, the Board observe, appears very heavy in proportion to the produce; for one hundred trees will give four maunds of chenee, value at the usual mofussil rate rupees 4 to 4 8 per maund, or for the whole produce seventeen rupees: the revenue is 4 to 6, say 5, thereupon.

The juice is drawn by making incisions under the bunch of leaves at the top, whence it is conveyed by bamboo pipes into an earthen vessel tied to the top of the tree. When fresh, the juice is not unpleasant to drink: it is sweet and brisk. Cane-juice is sweet and mawkish, and far from palatable. The manufacture of the juice for sugar is much the same for both.

The Board have seen sugar-candy made from date-tree sugar, but there is not any procurable at present; they will get some at the proper season. The sugar now going to England upon the Ganges will make known its inherent properties to the refiners. Should it answer for exportation, the cheapness of this sugar, compared with the cane-sugar, will bring it in much demand; but whether it be exported or not, encouragement should be given to it, as the tree grows

* See Rennell's Book of Maps.

† The swamp called the Rajipore Lake, and some low lands liable to inundation, make the only exception.

‡ Cane-juice is as six or seven parts to one of goor: date-tree juice, as thirteen to one.

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upon land which cannot readily be applied to other purposes, and the home consumption of it will facilitate the exportation of cane-sugar.

The documents and reasonings entered upon this day's proceedings, fully shew that these provinces are capable, with fair encouragement and allowing the time necessary for increase of produce, of exporting a greater quantity of sugar than all the British and French West-India Islands. The benefits that may result therefrom have been already largely set forth in the proceedings of the 7th August. They may be rendered of more solid importance to this country, to the Company, and to the nation, than if a mine of gold had been discovered.

[End of the Board's Minute.]

Sundry orders to the Agents, arising from the above Reports and Minute, *viz.* to Benares, Radnagore, Rungpore, and Soonamooky, are issued as follows.

To Agent at Benares.

(To the Agent at Benares.)

Sir:—We have received your letters of the 8th and 30th of January last, respecting the cultivation of sugar-cane and manufacture of sugar.

We request you to send musters of the following sorts of sugar: sixty maunds of bhelee, and sixty ditto of shukar or cund.

As you mention several sorts of canes, the punaree, reonda, mungoo, newar, kiwahee, and as these names are not used in this part of the country, we do not know whether the canes are the same sorts as those which grow in Bengal, or distinct. If they are the same, we request you to inquire the correspondent Bengal names and inform us. We desire you also to procure and send us samples of goor made from each sort. Should you not be able now to procure these samples, or those of the bhelee and shukar, send them from the produce of the next crop.

We have seen exceeding fine sugar-candy occasionally brought from Benares in presents. We wish you to procure a few maunds for us, and, if you can, to inform yourself of the mode of manufacturing it. We know that fine sugar-candy has long been made at Culpee upon the Jumna, but whether it be brought from that place to Benares we do not know: you will please to inform us.

In your letter of the 30th January, you state that a begah will produce from eight to fourteen maunds of bhelee, and that four maunds of bhelee will produce one maund of chenee: the lowest produce will, therefore, be two Benares maunds, or 2 30 factory maunds of chenee per begah of your part of the country, or 2cwt. 1qr. 22lb. per English acre; the highest will be Bengal maunds 3 20 or fact. maunds 4 32s. 8c. per begah, as before, or 4cwt. 1qr. 3lb. per English acre.* The highest produce is in quantity so much less than even the lowest produce of sugar lands in Bengal, that we are inclined to apprehend some error or misinformation, and request that you will repeat your enquiries respecting the quantity produced per begah, which we understand to consist in Ghazepore of a square of 120 covits, or 60 yards.

We are, &c.

The 4th Sept. 1792.

(To the Agent at Radnagore.)

To Agent at Radnagore.

Sir:—We have taken under consideration your letters of the 14th January and 8th August,, respecting the cultivation of the sugar-cane and manufacture of sugar, and are pleased with the information they contain. We request, as your experience in the provision of this new important branch of commerce may advance, you will communicate to us any further matters relative to the culture of the cane, the manufacture of the article, or the course of the trade that may appear to you to merit notice.

We request you to send samples of the oulah or balls of refined sugar that are made in your district, and, at your leisure, to transmit an account of the process of refining it, as well as of making sugar-candy. The musters you sent of

* A Bengal begah is eighty covits or forty yards, or 1,600 square yards.

of this latter article are going to Europe upon the Ganges. We request you also to send us a few maunds of the goor from your districts, of the sort made from the purple-coloured (cadjoolee) cane, and of the light-coloured (pooree) cane. We are glad to observe your attention to the improvement of the cultivation of the cane and of the manufacture. The modes you suggest are similar to those which we understand are practised in the West-Indies; but whether the West-India methods, or those practised by the natives of this country, are preferable, we cannot pretend to determine. Persons who have been West-India planters, are strongly prepossessed in favour of their methods; but we see, from the several reports before us, and from our individual observation, that the husbandmen of this country are extremely skilful in the cultivation of the cane; and we think that planting the cane afresh constantly, may be more advantageous than raising crops from suckers. As the sugar-cane greatly exhausts the soil, the changing the crop frequently must be generally beneficial. In the West-Indies, the want of hands and of territory, must often oblige the planter to adopt methods that are most expedient in the cramped and forced state of the West-India islands, but which, in an extensive country and natural order of society, may be far from being the best. We are confirmed in these reflections by an author of eminence,* who, speaking of the West-India cultivation, says: "From the stock of these (*i. e.* the canes just cut) issue suckers, which are in "their turn cut fifteen months after. This second cutting yields only half the "produce of the first. The planters sometimes make a third cutting, and "even a fourth, which are always successively less, however good the soil "may be. Nothing, therefore, but want of hands for planting afresh, can "oblige a planter to expect more than two crops from his cane."

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But as experiment is the best test, we wish you to try one upon a small scale, and therefore request that, for this purpose, you will procure a few begahs (say fifty or sixty) of both sorts of the cane, the purple and light coloured, now upon the ground, in a good soil, and near enough for your frequent personal inspection; and that you will raise a second crop from suckers, manuring and dressing the ground so as to let the trial be fairly made. You will cause an accurate account to be taken of the quantity of cane-juice the planted crop may yield this year, the quantity of goor produced from that juice, and how much ekbarra sugar, chittrah goor, and maut, that first goor may give: in the same manner, you must take an account of the produce of the crop from suckers.

With regard to teaching the natives to make sugar immediately from the cane-juice, without first making it into goor, our opinions are less formed. It is a fixed truth in political economy, that the division of labour increases its productive powers, and we see considerable advantage from the husbandman being able himself to put the rude produce of a quickly perishable vegetable substance into a form that will enable him to sell either to the neighbouring sugar-boiler, or send it to a distant market, or keep it till a good purchaser may offer. The process of doing this appears simple and easy: to carry the preparation to a further stage, may probably require a degree of skill in the sugar-boiler's profession which seems distinct from that of a farmer. Whether the goor be liable to injury from fermentation or from any other cause not incident to sugar, we cannot tell, but there is not any thing of this nature intimated in the several reports that have been made to us. Indeed, we observe that the myrahs strain the dahnadar goor, to separate the grain from the chitrah goor, or molasses, previous to making the chenee, and these divisions of the goor seem to correspond to the West-India muscovado and molasses. We speak, however, with much diffidence on mere professional matters, and under a strong impression that it is best to let people go on in their settled practice and experience, than to endeavour to make a change, without a firm conviction that such a change would be for the better. The Reports before us shew that there are various modes of managing the cane and purifying the juice, that they are simple and ingenious, and we think it probable some of them may be worthy the attention of the West-India planter or European boiler. Ultimately, we are certain that the husbandmen and sugar-boilers of this country do, in their simple

* Abbé Raynal, book xi, page 157.

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simple but ingenious process, produce exceeding good sugar at a very cheap price.

But in this, as we have observed in respect to the raising of suckers, we should like to see an experiment, and will therefore be glad if you can cause an experiment to be tried upon a small scale, (that is to say, upon the juice of three or four begahs of each sort of cane), and inform us of the result. We must observe, that unless the end proposed can be attained with the same cheap and simple implements that are now used, we are convinced it will be vain to expect benefit therefrom though successful. The expensive buildings and apparatus used in the West-Indies and in the European refineries, would overpower any probable advantage the use of them in this country would attain.

Our reasonings upon these objects may be elucidated, by calling in mind the well-established fact, that the simple spindle and loom of this country produce muslins of a fineness, beauty and durability, which the European manufacturers, with all their expensive and extremely ingenious and complicated machinery, have long endeavoured, but hitherto without success, to equal.

The money you may expend in making the experiments we have recommended must be charged under a separate head, which you may term "experiments in agriculture and manufacture."

We are, &c.

4th September 1792.

(To the Agent at Rungpore.)

To Agent at Rungpore.

Sir:—We have had much satisfaction in the full and intelligent information, contained in your letters of the 13th January and 10th February last, respecting the cultivation of the sugar-cane and manufacture of sugar in your districts, and request that, as your experience in the provision of this new and important branch of commerce may advance, you will communicate to us any further matter relative to the culture of the cane, manufacture of the article, or course of the trade, that may appear to you to merit notice.

Besides the undermentioned musters, which we expect soon to receive, *viz*

50 maunds of dahnadar goor,
50 ditto ditto after syrup is expressed,
50 ditto ditto doorbarra poktannee,

or after the second boiling, we wish you, if possible, while the rivers are open, to send musters of the following sorts:

Sugar-candy, from five to one hundred maunds if procurable, or even a single maund if more cannot be had. This article we should be particularly glad to receive, as we understand the sugar-boilers in London can, from the chrystals of the candy, form an opinion of the original strength or quality of the cane.

Of the inferior sort of sugar, made of equal parts of dahnadar gour and coutrah gour, sixty factory maunds.

Of the still inferior sort, made of one-fourth part of dahnadar gour and three-fourths of cootrah gour, sixty factory maunds.

Of the kumsh gour, ten maunds.

Of the pattilee gour, when cast into a hard mass, ten maunds.

We do not imagine these can be of desirable qualities, but experiments may be made thereupon.

From what you state, we are led to suppose that if assistance could be given to those cultivators (gutchuas) who usually cut their canes in October and November, for the purpose of making the patillee goor, at which early season we think the canes cannot be mature, they might be induced to let them remain upon the ground till they were sufficiently matured to make the dahnadar gour, and consequently so much more valuable sugar might be obtained. We are, however, aware, that our inference may not be conclusive. The taste and habits of many of the people may be so formed, or the uses to which they apply the patillee gour so necessary, that the market may always require

require a quantity thereof, and consequently it may best answer for some cultivators to gather their crops for this supply, or the soil may not be strong enough to carry the canes on to maturity, or blights may render it proper to gather them, or the ground may be required early for some other culture, or other causes, of which we are ignorant, may render it expedient to cut them in October. To these suppositions you will give your attention; but the impression upon our minds is, that the cultivator is forced, by necessity, to a premature gathering of his harvest, and that a small aid may remove that necessity and promote his benefit, that of the country, and the interest of our employers. There appears, however, risk in affording aid to men in circumstances such as we presume, for they as often arise from his want of skill or industry as from unavoidable embarrassments. You will be pleased to consider the subject; and if you are of opinion you can increase your provision by aid to the persons who usually cut in October, without incurring balances, we leave to your discretion to try a cautious experiment.

Bengal Board of Trade Consultations, 4th Sept. 1792.

We understand a biga in your part of the country to consist of a square of eighty covits, or 1,600 square yards, as reckoned in Rennell's Atlas. If we are mistaken we request you will inform us.

We thank you for the drawing of the mill you sent us, a picture from which, upon a larger scale, is making for transmission to the Hon. Court of Directors.

4th Sept. 1792. We are, &c.

(To the Agent at Soonamooky.)

Sir:—We have had much pleasure and satisfaction in the intelligent and well digested information contained in your letters of the 22d July and 20th instant, respecting the cultivation of the sugar-cane and manufacture of sugar, and request that, as your experience in this new and important branch of commerce may advance, you will communicate to us any further matters relative to the culture of the cane, manufacture of the article, or course of the trade, that may appear to you to merit notice.

To Agent at Soonamooky.

Besides the samples of sugars you promise to send, we wish you to obtain samples of the separate qualities of the Beerbhoom sugars, and send them to us, as it may probably be found of more advantage to the Company and to the sugar manufacturer not to mix them, as you state to be the present practice. A maund of each gradation, if more cannot be had, will be sufficient; but larger samples are desirable, that they may be referred to Europe for experiment.

We request you also to send us a few maunds of goor from each sort of cane, the cadjoolee and pooree, and we will send them to Europe for experiment.

We understand that the generality of the soil in your districts is arid. We observe the necessity you state of frequently watering the cane; and that, in your letter of the 25th August, you mention a quantity of young canes being destroyed by the dry weather which prevailed at the end of May and beginning of June last. A number of tanks and wells in those pergunnahs, the soil of which is fit for the cane, must be of singular benefit; and as a small quantity of Beerbhoom sugar, bought in the Calcutta bazar, obtained a considerable preference at the Company's sales over Benares sugar sold at the same time, it is our wish to encourage the produce of sugar in your districts as much as possible. We therefore request you to inform us, from your own immediate observation as well as from creditable information, the state of the tanks and wells in the lands fit for sugar; whether they appear to be in good order, or to have suffered from neglect; and if neglected, your opinion of the cause thereof: and these directions you will also apply to any other artificial means of procuring water that may be in use within the circle of your business.

4th September 1792. We are, &c.

Agreed, That copy of the Reports and Minute be transmitted to the Governor-General in Council with the following letter:

My Lord:—Having some months ago desired the Commercial Residents in those districts where sugar is chiefly produced to make inquiries respecting its cultivation and manufacture, we have received much useful information from them in reply. We submit copies thereof to your Lordship in Council, with

Letter from Board of Trade to Governor-General in Council, 4th Sept. 1792.

Letter from Board of Trade to Governor-General in Council, 4th Sept 1742.

with copy of our proceedings in consequence, and request that the whole may be transmitted to the Honourable Court of Directors by the earliest opportunity.

4th Sept. 1792. We are, &c.

Read a letter with six enclosures from the Export Warehouse.

To John Bebb, Esq., Export Warehouse-keeper.

Letter from the Export Warehouse, 3 Aug. 1792.

Sir:—Accompanying you will receive copies of six letters from merchants and mariners of this port, in reply to a letter written to them from this office in obedience to the Board's order of the 29th May last, on the subject of sugar packages, and the damage or wastage it might be liable to.

The following questions were put, and the substance of the answers is placed opposite to each question. For more particular information I beg leave to refer to the letters from the merchants and mariners.

Questions.	Answers.
1st. In what package is sugar usually put?	1st. In bags made as follows: within side a guzzie, sometimes brown sometimes white; over it gunnies, sometimes single, sometimes double.
2d. Supposing the ship not to meet with any accident, whether the sugar be liable to damage or to deficiency on delivery at the port of consignment from any cause except pilferage?	2d. Not to damage; deficiency is answered in the next answer.
3d. If liable to deficiency, what may be the usual rate of deficiency at the different ports of consignment, within the course of your experience?	3d. The general answer is about three per cent.; one house says from three to five, another from their experience upon their own ships, about two or two and a half, another says two per cent.
4th. Whether, by the usage of this place, there be any allowance made by the merchant to the ship-owner for deficiency on the delivery at the port of consignment of sugar sent on freight?	4th. If the deficiency should not exceed five per cent., the merchant has not any claim upon the ship-owner; but the ship-owner is bound to a *bonâ fide* delivery of all that reaches the port of consignment.

The Board's further order, to ascertain the difference of weight and of bulk of the different kinds of packages of sugar, I have notyet had an opportunity to conform to, but will do it as soon as practicable.

Export Warehouse, 3d August 1792. C. R. Crommelin, S.E.W.Kr.

Letters from the Merchants and Mariners of Calcutta, relative to Sugar Packages and Damage or Wastage.

To the Sub-Export Warehouse-keeper.

Letter from Messrs. Lambert & Co. relative to Wastage, &c.

Sir:—In reply to your letter of the 13th instant, we have the pleasure herewith to send our answers to the questions therein proposed. We have given our opinion upon the points submitted, to the best of our judgment; but we must be permitted to observe, that our experience in this branch of traffic (the exportation of sugar by sea) has not been very considerable, and that we do not deem ourselves competent to speak decisively with respect to unavoidable wastage; under which limitation, we request our sentiments may be received.

1st. Sugar is packed in bags.

Letter from Messrs. Lambert & Co. relative to Wastage, &c.

2d. If sugars are of a good quality, shipped in a dry season, and stowed properly on board of a ship, the wastage, except by pilferage, will be trifling.

3d. Under the above circumstances, we think not more than two per cent. to any port on the Coromandel or Malabar coasts.

4th. The same allowance for wastage is made on sugar as on grain, *viz* five per cent., but this does not authorize the commander or ship-owners, as has been erroneously conceived, to retain any part where the deficiency is under

Letter from Messrs. Lambert & Co. relative to Wastage, &c.

under five per cent., he being bound to deliver the whole. This allowance is much more than equal to cover any real deficiency on good sugar, arising either from change of climate or other unavoidable circumstances, where proper care is taken; but is granted to prevent all cause for cavil or litigation on the part of the commanders or officers, and by no means meant to encourage pilferage or plunder.

Calcutta, 15th June 1792. LAMBERT, Ross, & Co.

Letter from Messrs. J. and L. Barretto.

Sir:—We have been favoured with your letter of the 13th instant, and beg leave to inform you that sugar is generally exported from hence to other parts of India, or to Arabia or Persia, in bags of coarse cloth covered with gunny, and it is liable to no damage unless by water. Having exported no sugar on freight, we cannot acquaint you with the usual allowance made to the ship-owners for deficiency in the delivery: on such parcels as we have exported on board of our own ships, from time to time, we have experienced a deficiency of two to two and a half per cent., and we think three per cent. will be an ample allowance, unless the sugar is not well cured, or damp.

JOSEPH and LEWIS BARRETTO,

Sooksagur, 20th June 1792. Merchants and Ship Owners.

Letter from Mr. Stephenson.

Sir:—Your letter of the 13th instant came only to hand last night: being out of town, when sent, was mislaid by some accident, or I should most certainly have answered it sooner.

Sugar is usually packed in coarse brown guzzies, over which we generally add a gunny bag or two. It is certainly liable to damage from the heat of the hold, or dampness, particularly in long voyages.

I have generally found the deficiency from three to three and a half per cent.

I believe the allowance on sugar sent on freight is the same as grain, five per cent. I have ever understood it so, but am not certain.

Calcutta, 28th June 1792. THOMAS STEPHENSON,

(Has been commander of several country ships.)

Letter from Mr. W. Thomas.

Sir:—In answer to your letter of yesterday, I beg leave to inform you (as well as I am able) relative to the exportation of sugar from hence to other ports. It is commonly packed in double gunny bags, containing from two to four maunds each: it seldom or ever meets with damage if stowed in a dry place, unless the ship abounds with rats, which will increase the common wastage considerably. I do not recollect that I ever had more than three per cent. deficiency; and I have had many cargoes from hence, as well as from Batavia, during the space of seventeen years.

In policies of insurance, sugar is warranted free from average under ten per cent., and all other goods under five per cent., unless general, or the ship be stranded, which is a guide between freighter and freighted.

As your letter implies an intention to export sugar on freight, if it is not an improper question, will you be so good as to inform me; if so, I beg leave to offer the Reliance on her return from Masulipatam, about six weeks hence, and as she is a new ship and free from vermin, there will in all probability be very little or no deficiency.

Calcutta, 14th June 1792. I am, &c. WILLIAM THOMAS,

(Commander of a country ship, part-owner and merchant.)

Letter from Messrs. Fairlie and Co.

Sir:—We are favoured with yours of this date, desiring to be furnished with information on several points respecting the exportation of sugar from hence to other ports of India, &c.; in reply to which, we now answer your questions in the order they are put:

1st. The packages generally used by us are those in which sugar comes into Calcutta, *viz.* a thin cloth bag, which is covered with gunnies.

2d. We have not found sugar in such packages more liable to damage or deficiency than any other gruff article of cargo, unless from accident to the ship.

3d. The deficiency which we have experienced in sugar, in voyages of from two to four months, is generally from three to five per cent.

4th. We do not know, by any usage of this place, that an allowance is made by the merchants to the ship-owner for deficiency on sugar sent to any port of India.

Letter from Messrs. Fairlie and Co.

India on freight, but if such deficiency does not exceed five per cent. the owners are not answerable, unless there is reason to supect its having been by unfair means.

FAIRLIE, REID & Co.,
Merchants and Agents.

Calcutta, 13th June 1792.

Letter from Mr. G. French.

Sir :—I have received your letter respecting information you wished to be furnished on the following points for the exportation of sugar from hence to other ports of India, to Arabia or Persia, which I have, to the best information I can collect, replied to the different points, *viz.*

1st. It is usually exported from hence to Madras, Bombay, and Surat, in the same package as it comes in from the country, in double gunny bags, sometimes a cloth bag inside, and it is exported in the same package to Arabia and Persia ; but lately, about three or four years ago, some of the commanders and owners of ships thought proper to pack it in baskets and boxes by putting cloth inside, which they find does not answer so well for stowage, and the baskets are too slender to bear the weight, and they think that double dungaree bags will be best to pack it in ; but in long voyages, such as to Europe, chests are preferable to pack in.

2d. Sometimes the heat of the hold melts the sugar, which runs out of the bags, consequently there will be a deficiency of one or two per cent., as I find in two or three cargoes from hence to the Persian Gulph turns out, upon an average, about four and a half per cent. deficiency.

3d. Three per cent. to the Coromandel Coast, four per cent. to Bombay, Surat, Arabia, and Persia, is what I believe can be very reasonably allowed in the dry season; it must be more in the rainy season, if put on board and landed in that time of the year.

4th. The above allowance is what I believe made by merchants to the ship-owner, but if it turns out shorter, the commander is obliged to make good, or if no deficiency, he cannot appropriate to himself what is allowed for the deficiency, but deliver the whole to the proprietor of the sugar.

Calcutta, 20th June 1792. G. FRENCH,
(Is a ship-owner or has been one, and a merchant.)

Agreed, That copy of these papers be transmitted to the Court of Directors.

Agreed, That the above papers be transmitted to the Governor-General in Council.

EXTRACT Board of Trade Consultations, 14th September 1792.

Bengal Board of Trade Consultations, 14 Sept. 1792.

Read again the letters from Benares of the 17th August, from Rungpore of the 20th August, and from Soonamooky of the 25th August.

Read the following further letters from the first and last of these places.

(From the Resident at Benares, 24th August 1792.)

Resident at Benares to Board of Trade, 24 Aug. 1792.

Gentlemen :—I have received your letter of the 11th instant. I wrote to you fully on the 17th instant in reply to your letter of the 3d instant, and can now only repeat, that under present circumstances the quantity of sugar, and the price at which it may be procured for the season 1793-4, is so uncertain, that I really cannot give any assurance on that head ; but if Government should judge it expedient to adopt a regulation to secure it, I have already mentioned the probable quantity which may be procured.

The price now of the second kind of sugar is Rs. 8 12 per maund of this country weight, and but little to be procured. If the present eager speculation continues, I think it is very probable, nay almost certain, that the new sugar which will be brought to market about the beginning or middle of February will not be at a less price than Rs. 12 per maund, or about double what it was the early part of the year 1791, and the quality will in all probability be inferior.

Ghazeepore, 24th Aug. 1792. JOHN LLOYD, Resident.

Gentlemen:

(From the Resident at Soonamooky, 7th September 1792.)

Resident at Soonamooky to Board of Trade, 7 Sept. 1792

Gentlemen:—On the 25th ultimo I had the honour to lay before you a plan for the provision of sugar for the next year's investment; and presuming that the mode recommended would meet your approbation, I have taken steps to carry it into effect. To succeed to the full cultivation of the Beerbhoom district, is being too sanguine in expectations, but I find the plan generally approved by the description of persons I stated as those to be employed, and have but little doubt that the quantity of sugar obtainable next season will be much increased beyond what has been got this year, provided there is no failure in the crops on the ground.

I could wish to have extended this idea to the Bishenpore district; but the people there are so situated in jungles, open to the depredations of decoits, and often from necessity obliged to fail in their engagements, that the risks would be far beyond any profits to be derived: I shall therefore not recommend advances being made there, unless to persons of undoubted responsibility, and whose property being either at Pattersayer or Soonamooky, is protected by the guards sent there for the factories.

Great quantities of goor are brought to Caunchunagore, and bought up by the gomastahs and servants of merchants in Calcutta. The exports last year from thence were very considerable, and with attention might in great part be secured for the Company: but that place is so subject to be overflowed, that no mud building would answer the purpose of a store-house, and it would be necessary to have a large range for any considerable quantity. I therefore submit it to you whether it would not be better to build pucka foundations, about three feet above the ground, and endeavour to obtain as much goor as possible, for there are many people at Caunchunagore who would readily engage to manufacture it into sugar for the Company.

I cannot say what expense this building would put the Company to, because the prices of materials in that part of the country are unknown to me; but if you, gentlemen, approve, I will go down to Burdwan after the rains, and examine minutely into all the necessary particulars, and, with your permission, station a servant or two at the haut to make the goor purchases.

Adverting to my letter of the 25th ultimo, I do not seem to have stated that twenty thousand factory maunds was my estimate for the aurung at large, and not Beerbhoom in particular: but anxiously zealous for the increase of the export of an article which seems to be so much in request, there is no mode or information that I will not seek out for, which may tend to facilitate so desirable an object.

I have, &c.

Soorool, 7th September 1792. J. CHEAP, Resident.

Agreed, That these and the above-mentioned letters be replied to as follows:

(To the Resident at Benares.)

Board of Trade to Benares, 14 Sept. 1792.

Sir:—We have received your letters of the 17th and 24th August on the subject of providing sugar from the crops now upon the ground.

While we have a pleasure in noticing your earnestness to secure for the Company a large provision from the Benares zemindarry, we cannot approve the effecting this by the imposition of duties upon the property of private merchants, nor by making advances upon any other terms than those of fair dealing and equality between party and party. On what footing the advances are made for opium in the Benares district we are not informed, but in Bengal that article is monopolized by Government as a source of revenue, and we understand that the cultivators of the poppy are not allowed to dispose of the produce to any other persons than to the Government contractors. The sugar is an article the Company are desirous of encouraging; the modes you have suggested of obtaining a preference for their purchases are dissonant to our principles and conduct in mercantile transactions, and would be prejudicial to extending the cultivation of the cane, and to the welfare of the country. We well know that the large capital of the Company, and the skill and experience of their commercial agents, give great but fair advantages over the concerns of

Board of Trade to Benares, 14 Sept. 1792.

individuals, and these we rely upon. Your credit is unlimited for the article in question, and we trust that you will be successful in your fair exertions for procuring a large quantity. We recommend you to be early in your operations, because we understand that private persons are already beginning their plans for securing the produce of the crop now upon the ground.

We are, &c.

(To the Resident at Rungpore.)

Board of Trade to Rungpore, 14 Sept. 1792.

Sir:—We have received your letter of the 20th August. We expect that the present eager demand for sugar will cause difficulties in the provision: but we rely upon your exertions for surmounting them.

In respect to the mode of provision, we leave it to your discretion: our experience in this new branch of commerce is too slender, and our knowledge of local circumstances too confined for us to determine. In general we prefer dealing immediately with the persons who furnish at the first hand the articles the Company require, and therefore like your idea of making advances to the gutchwahs. We are further induced to think preferably of this mode, from imagining that it may prove the means of more rapidly extending the cultivation of the cane, since we know that the stability of the Company's business gives a confidence and assurance to those employed by it, which they do not derive from any other. The condition of the gutchwahs renders it necessary for you to be cautious against incurring balances and against imposition. Where you find it expedient to make engagements with goladars, we refer to you whether it may not be advisable to give advances to them to furnish to gutchwahs, upon the engagements of the latter to deliver goor, which the goladars shall agree to manufacture into sugar to be delivered to the Company, and that accounts be rendered to you of the names of the persons from whom the goor is to be received, and of the villages and pergunnahs in which they reside: and, if possible, that the agreements with the gutchwahs be on behalf of the factory. This will be an additional check to prevent the produce being turned into other channels; and it will give you a knowledge of the persons who may in future be trusted.

We, are, &c.

P.S. We have requested an advance for you of C.Rs. 25,000.

(To the Resident at Soonamooky.)

Board of Trade to Soonamooky, 14 Sept. 1792.

Sir:—We have received your letters of the 25th ultimo and 7th instant, and are much pleased at the zeal manifested in them respecting the sugar investment.

In general we prefer dealing without any intermediate agent with the parties who furnish the articles the Company require; but as our experience in the sugar business is yet new, we approve your recommendation for employing the sugar-boilers as intermediate agents between the factory and the cultivators of the cane; and we approve the precautions you suggest for preventing the produce being turned into other channels, and for gaining a knowledge respecting the persons who may in future be trusted.

We approve also of your extending the plan to persons of responsibility in the Bishenpore districts, and are concerned that the state of that country causes a very great risk in making engagements generally through it. The quality of the sugar you sent from thence appears extremely good; we are anxious to secure as much as possible of it, and therefore wish you to consult with the Collector respecting some mode of making the provision without suffering by the risks you mention. We know that persons who deal with the Company feel a confidence, and derive a security against depredations and violence, which no other employment affords them; and we trust that the benefit his districts will receive from the extension of this valuable commerce, and the service it will render to his constituents, will induce the Collector to give you every assistance in his power for forwarding these desirable purposes.

We approve of your going to Burdwan after the rains, to examine into the practicability of procuring sugar at Caunchunagore, and of your eventually stationing persons there for the purpose: but we defer any determination on the score of pucka work till you have further investigated the probable

provision

provision at that place. Indeed, in general, in all matters in which the experience of the natives has long been competent, we prefer adopting their methods in respect to implements of business or buildings: and we understand that in all places except capital towns their goor and sugar are mostly deposited in golahs, as is grain and other gruff articles. At this particular time there are also other reasons for our deferring every expense that will admit of delay. We know by authentic, though not official advices, that the Company have made an application to the Ministry respecting the heavy duty paid upon Bengal sugars; and we see by the public prints, that in April last, a Bill on the the subject of the duties, drawbacks, and bounties upon sugar, was before Parliament. We wish to know the result of this, and to receive the instructions the Court of Directors will probably send thereupon, ere we go to the least expense in buildings for sugar; and we are further induced to defer making any applications to Government on the score of expense, that can be delayed while their funds are encumbered with the 12 per cent. loans.

Board of Trade, to Soonamooky, 14th Sept. 1792.

We are, &c.

EXTRACT Bengal Board of Trade Consultations, 25th September 1792.

THE BOARD now resume their deliberations of the 4th instant respecting the *Increase of Sugar*.

They would have been glad if, previous to resuming the subject, they had received the replies of the Collectors to the points they submitted to the Governor-General in Council on the 7th August last. But the time of the year admits not of longer delay. The month of October, when the ground must be begun to be prepared, is near commencing, and it is necessary now to come to a decision, or a year will be lost, and the inconveniences now felt from a want of supply equal to the demand, continue so much the longer, and the present favourable opportunity of striving to regain to the British nation the trade it formerly possessed in sugar, be in some degree foregone.

Minute of Board of Trade, 25 Sept. 1792.

The proceedings of the 4th instant shew it to be the Board's opinion, that the considerable expense necessary for cultivating the cane,* the risk of the crop from unfavourable seasons, the length of time ere the returns can be made, and the want of stock among the peasantry, render it necessary to assist them with the means of procuring stock. But whether it be best to do this directly, or through the medium of other persons, the Board were not decided.

Hitherto, as the Board understand, the expense of commencing the cultivation has been furnished from the husbandman's immediate funds, or from the resources he may derive from his general credit with his mahajin. And when the cane has so far advanced in its growth that a tolerable judgment may be formed of its produce, the dealers in goor, or the sugar-boilers, make advances upon the crop, to be repaid from the produce; and charge a heavy interest upon the money thus advanced.

This advance, though a benefit to the husbandman whose stock is scanty, is not

* Abstracts of the different statements of the expensé of cultivating the cane, including the rent of land and of boiling the juice into goor; taken upon a square of 80 covits, or 1,600 square yards.

	S.R.	A.	P.
In Beerbhoom, by the Resident at Soonamooky's account	20	14	6
In Burdwan, by the Resident at Radnagore's account	18	0	0
At Ranehatty and Amboah in Burdwan, by Seesoram Mozendar's account, per begah of 75 covits, S.Rs. 18 10, which per begah of 80 is	19	14	0
At Radnagore in Burdwan, by the same person's account	18	3	0
In Boro Purgunnah near Sulky opposite Calcutta, by ditto	22	14	0
Total of the five.... S. Rs.	99	13	6

N.B. A charge of watering is included in the Beerbhoom account which is not reckoned in the others.

In round numbers S.Rs., 20 per begah may be assumed as the former average expense. But as it may be presumed that manure will rise in price in consequence of the increasing cultivation, the expense will in future be higher in proportion. This proportion cannot be estimated.

The above abstract supposes labourers and implements to be hired. But the actual out-lay to a husbandman possessing oxen and proper implements of husbandry, working upon his own account, and assisted by his family, is estimated by Seesoram Mozendar at per begah S.Rs. 10 4. This difference is considerable: but it is limited by the extent of labour to which the family is competent.

Minute of Board of Trade, 25 Sept. 1792.

not so effectual as is required by the existing demand for the article, and by the opportunity which adventitious circumstances afford, of regaining to the British nation the commerce it possessed at the end of the last and beginning of the present century, of supplying various markets of Europe with sugar: for in many parts of the country the land intended for cane being ploughed in October, the charges of dressing and manuring the ground, and of purchasing plants, which are heavy proportions of the whole expense, being, as already has been said, furnished from the husbandman's own resources, less land will be put into cane cultivation than if the husbandman had ample means at the beginning of the season.

Thus supposing a man to have ten, twenty, or fifty begahs of land in a soil fit for sugar, the scantiness of his means, and the length of time ere he realizes produce, may prevent his allotting more than a tenth to cane; whereas, were he furnished with means, and were he confident of disposing of the produce at an encouraging price, he would willingly cultivate a large proportion.

The modes by which the husbandman may be assisted early in the season, suggest themselves as follows:—One, by the Commercial Residents making engagements with the sugar-boilers, and offering advances thereupon, on condition that they make, in their turn, advances to the cultivator.

This mode has some advantages, by the habits of intercourse which these people already have with the husbandman; but it is liable to the following objections:

1st. The charge of a double profit, when only one is necessary.

2d. The want of certainty that they duly advance in proper season to the cultivator.

3d. The ease with which they can dispose of the produce and carry on various modes of fraud.

4th. Their endeavouring to render every under-transaction intricate and mysterious, in the hope of establishing the necessity of continuing the engagements with them.

5th. It being difficult to establish any mode of ascertaining whether they bona-fide endeavour fully to perform their engagements, that is not liable to easy deception.

6th. Supposing that no frauds be attempted, yet as a considerable number of persons must be employed, they will create a competition with each other, which might prove detrimental to their common employer, and cause themselves to fall in balance, and might become harassing to the cultivator.

Supposing all the objections but the first could be over-ruled, still it is necessary, on account of the rivalship of the nations in India, as well as in the West-Indies and America,* that the article be loaded with as few intermediate charges as possible.

The profit these people would derive by being the medium between the factory and the chassa, would considerably enhance the ultimate price, while the benefit to the latter would not be proportionally advanced.

Another mode which occurs of assisting the husbandman is, by making advances directly to him, part early to enable him to prepare his land, part at the time of planting, and part at the seasons in which it may be judged most necessary for him to hire additional labourers for the management of the crop; and by receiving from him either goor or sugar in return.

The advantages of this procedure are manifold. It directly gives to the husbandman that which the generality of them in Bengal want, the means of working their land to the most advantage. It gives him encouragement, by his knowing that his produce will be immediately taken off his hands at a fair price; and it affords him confidence, by his seeing that he acts with persons who have a solid and permanent interest in the success of his labours. This confidence he cannot derive from casual customers; since neither he nor they, that is the native dealers and boilers, have sufficient knowledge to enable them to

* Dutch at Java and the other islands in the Eastern Seas; Spaniards at Manilla; all Europeans and Americans trading to China; French, Spaniards, Portuguese, and Dutch in the West-Indies and America.

to perceive and comprehend the permanent causes and adventitious circumstances that occasion the present demand, to know how long they may last, or to embrace the extensive views and interests to which the commerce in sugar leads; neither, shackled as they are by peculiar habits and by the principles of a superstitious religion, are they likely to acquire such knowledge. Advances made to the husbandman on the part of the Company afford the assurance of permanency; and while he is treated with encouragement and fair dealing, the benefit he finds from his industry will induce him to continue the exertion of it.

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The benefit to the Company of getting the articles at the first hand is so obvious, that it is not necessary to be entered upon.

Objections, however, may be started to this mode; some of them from just reflections upon possible, or rather presumptive consequences; others from interested persons.

1st. That the issuing advances will cause the husbandman by degrees, from unfavourable seasons or the common contingencies of life, to fall in balances, and to be thereby held in a sort of bondage, which will in a manner compel him to continue to receive advances each successive year, and thus deprive him of the power of free agency.

2d. That considerable balances will be incurred, by which the Company will ultimately be losers.

As both these objections stand upon the same ground, though consequences in the one case prejudicial to the husbandman, and in the other to the Company, are attributed thereto, the Board reply to them together.

The advances must be made with discretion and caution, to such persons only as it is probable from obvious circumstances will be able to complete their engagements. If the terms of the engagements be fair between party and party, and the price be reasonable, or rather encouraging, it is not likely that in ordinary seasons the cultivators will generally fall in balance. It is rather to be presumed they will have surplus produce, which they will be able to dispose of in the mode they may find most advantageous. The profit they may thereby derive will enable them to cultivate more cane from their immediate resources: a benefit too obvious to need exposition.

Supposing a general or partial distress, from unfavourable seasons or other unavoidable calamities, it is the evident interest of the Company's Resident to assist and relieve the distressed, instead of oppressing them; and instances are upon the Board's proceedings of this being much attended to.

In cases of individual distress from sickness or misfortune, the same conduct will hold good. But it will require attention to learn whether the distress be real, or only pretended.

Where there may be knavery, or gross and palpable misconduct, the Company should of course have the same remedy that any other creditor would have on a similar bargain, and under the same circumstances.

In respect to the risk of loss to the Company, it is reasonable to presume from experience that, with common attention, it will be very trifling. In the first four years of the present system of agency the amount of doubtful and desperate balances upon piece-goods of raw silk was only $\frac{77}{100}$ per cent. Yet in these years there was much calamity from inundation and famine, and from seasons extremely unfavourable to the cotton and mulberry plants; and many difficulties were at first experienced, from the habits of abuse which had arisen in former times, especially during the contract system.

Imposition in the articles of piece-goods and raw silk are much easier to be practised than in the cultivation of sugar. It requires an experienced eye to judge of a piece of cloth in the loom; and both cloths and cocoons are more easily removed for undue sale than sugar-cane. It is not easy to be known whether a manufacturer duly buys thread. It is easy to learn whether a peasant has ground; and whether he cultivates it, or not, with cane, is obvious to slight observation.

3d. That the mode proposed prevents there being a merchant between the

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cultivator and exporter, and consequently a benefit to the country, by whatever his profits would amount to.

This objection will be advanced by European private speculators, whose adventures in sugar have been extremely successful this year. Their immediate profit is the motive, the benefit to the country the plea. They have less permanent interest in the soil and the happiness of the natives, than the Company's servants.

The aggregate of their stock is small;* and they fear that the Company going to the fountain head with a large capital, and looking to permanency, will interfere with and prejudice their temporary speculations. Though the reply is already anticipated by what has been said on making engagements with native dealers and boilers, the Board here repeat, that as the sugar of this country is rivalled by that of others, it is necessary that as few intermediate charges as possible fall upon it. The cheaper it can be sold in Europe, the more will be cultivated and exported, and the more this country will be benefited: and if the export be upon British ships, the greater will be the benefit to the British nation.

Upon mature deliberation, the Board agrees to submit it to the Governor-General in Council as their decided opinion, that the furnishing advances to husbandmen who have land in a soil proper for sugar, will contribute more to increasing the produce of sugar in these provinces than any other mode.

In order to prevent any misconception of persons ill-disposed to the Company, the Board here declare it to be their meaning, that, conformably to the principles of the present system of agency and to the general principles of commerce, no advances are to be made but such as the parties receiving them shall freely, voluntarily, and cheerfully think proper to accept. They are not to be influenced by any other motive than what they themselves may think the most for their own interest. In a word, the parties receiving advances are to be perfectly free agents.

The price of the commodity which is to be returned for the monies advanced must necessarily be determined by local circumstances. The Board think it should be settled as early as possible; and that a reference to the general average price previous to the last crop, whose scant produce, from an unfavourable season and an increasing demand, raised it above its level, may be taken as a guide. The Board are not desirous of any settlement below that average; for a hard bargain would tend to discourage industry. Considering that increasing cultivation will probably increase the price of manure, and that a liberal price will promote the growth or produce, they would rather the rates should be above the average they allude to. Care must, however, be taken that the price, whatsoever it may be, go wholly to the party, free of fees or dustoors of any kind.

The agreement must be drawn in clear, express, unequivocal terms, so that all plea for dispute on either side may be avoided as much as possible.

The account current must duly and fully express the time and amount of each payment, and the quantity of each delivery, with the value thereof, conformably to the bargain. A counterpart must be given to the party, on which the entries must regularly be made. This must be duly settled at the close of the crop for which the advances were made, and subscribed by the Company's representative.

The Board understand it to be the custom of individuals to charge a heavy interest upon the monies they advance; and though they might certainly charge a legal interest upon their advances, the Board think it better to render the transaction as simple as possible, by following the mode in use respecting the other branches of the investment, the foregoing of interest. This advantage to

* Success has in India, in respect to private European merchants, an effect it has in no other country: it diminishes the amount of the general stock employed in commerce, by the successful adventurer carrying his property to Europe. Hence it follows their stock ever must be small. Probably the net property of those resident in Bengal does not amount to £200,000.

to the husbandman will of course be considered in settling the price of the commodity.

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The produce of the advances that may be issued in the event of the Governor-General in Council approving the opinion of the Board, will only be ready for shipping in the season of 1794–5; as the following statement will show:

Preparing the ground—October 1792 to January following.
Planting—February to May.
Cutting the cane and making goor—December 1793 to the end of March 1794.
Manufacturing the sugar—done at leisure or as occasion may require.
Shipping—August 1794 to March 1795.

It is possible that some of the produce of the early Radnagore or Santipoor canes might, as those places are near, and the communication by water always open, be down in time for the March ship; but this is not to be relied on.

The Board observe, that the plan will this year be more particularly beneficial in some of the districts of Bengal that yield the best sugars, and have suffered most from the present scarcity of rice, *viz.* Midnapore, the southern and western parts of Burdwan, Bissenpore and Berbhoom. The early cessation of the last rains affected these countries more than the other parts of Bengal.

If the peasantry of the zemindarry of Benares be in circumstances generally similar to those of Bengal, the same good effects would follow were the measures now proposed for Bengal to be also adopted there; but of this condition the Board have not information. For this reason, as well as because Mr. Lloyd intimates some distrust in making advances, they are diffident in proposing an extension of the measure beyond the Duanne provinces. They however think it will be advisable to submit to the Governor-General in Council his referring the measure to Mr. Duncan the Resident at Benares, and requesting his opinion thereupon, as well as the best mode of ensuring a fair return for the monies advanced.

The Board think it proper to remark, that they look not so much for present profits to the Company, as for the future solid advantages which abundant produce will generally afford. Whenever the supply shall be equal to the internal consumption and to the demand for export, the price will naturally fix itself at its proper standard, and be affected only by the ordinary course of seasons and the general state of commerce.

Agreed, That copy of this Minute be laid before the Governor-General in Council with the following letter:

Letter Board of Trade to Governor-General, 25 Sept. 1792.

My Lord:—Having taken into our consideration the promoting the increase of the produce of sugar, we submit to your Lordship in Council our deliberations thereupon; from which it will appear to be our opinion, that furnishing advances at proper seasons, and on fair and encouraging terms, to those cultivators who may have lands in a soil for sugar-cane, and who may be willing to receive them, will materially contribute to forward the many desirable purposes which will arise from an extensive cultivation of sugar in this country.

2. In the event of your Lordship in Council approving the adoption of this measure for the provinces of Bengal, Behar, and Orissa, we submit to you our suggestion for the opinion of Mr. Ducan being taken respecting the extending it to the zemindarry of Benares.

3. We take this occasion of requesting we may be permitted to express our satisfaction in the instructions which your Lordship in Council has directed to be issued to the Collectors for encouraging the cultivation of sugar, and for preventing the evils that were to be apprehended from the rapacity and short-sightedness of individuals raising the rates of pottahs upon the sugar-cane lands. We trust that increased cultivation will soon render the supply equal to the demand for export, and to the wants of the native consumers.

We are, &c.

EXTRACT

Bengal Revenue Consultations, 17 Sept. 1792.

EXTRACT Bengal Revenue Consultations, 17th September 1792.

The Bengal Government wishing to encourage the cultivation of the sugar-cane, and being of opinion that, in order to effect this object, it is essentially necessary to prevent any enhancement of the rates of the pottahs for the lands appropriated to that purpose:

Agreed, That the following letter be written:

To the President and Members of the Board of Revenue.

Letter from Governor-General in Council to the Board of Revenue, 17 Sept. 1792.

Gentlemen:—Being desirous of extending the cultivation of the sugar-cane, not only with a view to contribute to the supply of the present demand for sugar in England, but also to increase the general export trade of Bengal, we direct that you order the Collectors to make it an object of their particular attention to promote the cultivation of the sugar-cane, and to acquaint the cultivators and dealers in sugar in their respective districts, that there is every ground to believe that, in future, the demand for this commodity will be such as to yield to them an ample profit on any quantity that may be brought to market.

2. We at the same time think it essentially necessary to take precaution to prevent the rapacity or short-sighted policy of individuals depriving the country of the advantages which it may reap from this demand for one of its most valuable productions. It is to be apprehended that many of the land-holders who are unacquainted with their real interests, may be tempted by the high price of sugar to endeavour to derive an advantage by raising the rates of the pottahs of the sugar-cane lands, instead of looking to the extension of the sugar plantations for an increase of the rents of their estates. Such exactions would not only be unjust as well as repugnant to established usage and the existing regulations, but entirely counteract the effects which a rise in the price of sugar must infallibly produce. If the profit accruing from this increased price is in the first instance secured to the cultivators there can be little room to doubt of their extending their plantations, and the quantity of sugar brought to market will be proportionably augmented. But if the rent of the land is raised in proportion to the increase in the price of the sugar, it is obvious that the cultivators will derive no advantage whatever from the general enhancement of the value of the commodity, and consequently the only motive which can incite them to extend a cultivation at once so laborious and expensive will cease to operate. In such case, but an inconsiderable quantity would be procurable for exportation, and as this quantity would come charged not only with the amount of the additional tax on the land, but also with the further enchancements of the price occasioned by the commodity being raised so much in value previous to its first delivery out of the hands of the cultivator or manufacturer, it would probably yield but little profit to the exporter. Under these circumstances the trade could neither be extensive nor advantageous, and in all probability would soon be relinquished. On the other hand, by guarding against the operation of such narrow views on the part of the landholders, the ryotts will reap an ample profit from the cultivation of the sugar-cane, which will not fail to induce them to increase the cultivation to such an extent, as in the course of a few years will enable this country to export large quantities of sugar, not only to England, but to the different parts of India where this commodity is in demand. The sugar plantations will also be a source of opulence to the ryotts, and enable them to increase the cultivation of grain and every other article of produce. The zemindars likewise will reap greater and more permanent advantage from the appropriation of an additional quantity of land to the cultivation of the sugar-cane (which in general pays to them a much higher rent than any other article of produce) and from the opulence of their ryotts, than they can possibly derive from any increase in the rates of the pottahs: and the benefits which will arise in a variety of ways to the country at large by the establishment of an extensive export trade in so valuable an article, will contribute greatly to its prosperity. We desire therefore you will order the Collectors to communicate the contents of this letter to the principal zemindars and landholders, and also to the tehseeldars, and enjoin them to be particularly careful to prevent any enhancement of the

rates

rates of the pottahs for sugar-cane lands in their respective collectorships, whether the same shall have been fixed by special agreement between the ryott and the landholder, or by the ancient and established usage of the district.

Letter from Governor-General in Council to the Board of Revenue, 17 Sept. 1792.

We are, &c.

Fort William, 17th September 1792.

EXTRACT Proceedings of the Governor-General in Council in the Commercial Department, dated the 3d October 1792.

Read the Company's general letter dated the 25th April 1792, [containing the queries respecting the sugar trade.]

Proceedings of the Governor-General in Council, 3 Oct. 1792.

Ordered, That copies thereof be sent to the Board of Trade.

EXTRACT Board of Trade Consultations, 12 October 1792.

THE BOARD OF TRADE have great pleasure in remarking that their proceedings of 13th December 1791, 7th August, and 4th, 7th, and 25th September 1792, have anticipated much of the information required by the Honourable Court in their letter of the 25th April 1792; but as this letter desires information from every part of the country, they think it will be proper to transmit it to the several Commercial Residents, desiring them to furnish the best information they can procure on all or any of the points therein stated.

Minute of Board of Trade 12 Oct. 1792, on Court's Letter of 25 April 1792.

The Board observe that the letter desires information to be sought from the Collectors, without mentioning Commercial Residents; but as is it evident the Honourable Court want the fullest information, and as the official duties of the Residents incline to render them more prompt and ready upon commercial subjects than men whose attentions are drawn to other pursuits; and as several of the Residents have already with much ability and industry gone far into the subject, *the Board are convinced the Honourable Court will approve their resolution of transmitting it to the Commercial Residents.*

Agreed, The following circular letter be written:

Sir:—We transmit to you extract of a letter from the Honourable Court of Directors, bearing date 25th April 1792, on the subject of sugar; and have to desire that you will furnish the best information you may be able to procure upon all or any of the several points therein stated.

Board of Trade to the Commercial Residents, 12 Oct. 1792.

We are, &c.

Additional, to Soonamooky, Radnagore, Rungpore, Commercolly, Santipore, and Benares:—

Your replies to our letter of the 3d August, having already furnished many of the particulars sought by the Directors, it will be sufficient that for these you refer by a note to such parts of those replies as contain them.

Additional, to Patna:—

We have not yet received any reply from you to our instructions of the 3d August for making sundry inquiries respecting the cultivation and manufacture of the sugar in the districts within the circle of your business: and a particular reply to those instructions is now unnecessary, as the Court of Directors' letter comprehends all the points we desired to be informed upon.

EXTRACT Board of Trade Consultations, 12th October 1792.

Read a letter from the Resident at Commercolly, as follows:

Gentlemen:—Finding there was considerable risk in receiving the goor during the rainy months, I thought it better to agree with those who had any to dispose of, that it should remain with them till the dry weather commenced, first taking proper security from them that it should not be otherwise disposed of. The deliveries are beginning, and I hope in the course of ten days to have every thing in readiness for making the sugar. In as short a time after which as may be practicable, I shall have the honour to inform you what quantity I expect to furnish by the end of the year.

Resident at Commercolly to the Board of Trade, 5 Oct. 1792.

Residents at Commercolly to the Board of Trade, 5 Oct. 1792.

The advances already exceed my receipts; and to enable me to secure as much as possible of the cane now on the ground, I find I shall have occasion for a further supply of C.Rs. 30,000 as soon as I can conveniently be furnished.

Commercolly, 5th October 1792. RICH. BECHER, Resident.

Agreed, That the advances required by the Resident be applied for.

EXTRACT Board of Trade Consultations, 17th October 1792.

Read a letter from Soonamooky, as follows:

Residents at Soonamooky to the Board of Trade, 11 Oct 1792.

Gentlemen:—The sugar-boilers have been under some apprehensions from the inquiries made by the collectors of the lands in cultivation of cane, that the zemindarry officers meant to prevent the ryotts selling the goor but to persons of their choice: and however childish such an idea may appear, yet from the timidity of the people I have thought it advisable to mention the circumstance to Mr. Keating and Mr. Brooke, and have no doubt but that they will issue perwannahs to dissipate such an apprehension.

In the engagements made by me with the sugar-boilers I have stipulated for two seers per maund, as interest for the advances, and two seers of goor per rupee from the ryotts; but under a verbal declaration from me that neither the one or other shall be taken, if I have no outstanding balances, and in the event of there being a defalcation only to that amounts; so that the Company may not suffer from these risks, which will I hope be honoured with your approbation.

Soorool, 11th October 1792. J. CHEAP, Resident.

EXTRACT Board of Trade Consultations, 19th October 1792.

Read a letter from Radnagore:

Agent at Radnagore to the Board of Trade, 13 Oct. 1792.

Gentlemen:—I am much concerned to be under the necessity of informing the Board, that the persons who made agreements and received advances for the sugar of the current year are unable to complete their engagements, owing to a sudden and almost total failure of the usual supplies of jaggry in the several hauts of this aurung; and that in consequence the probable deliveries by the 31st December, as stated in my estimates of the 13th August, will, I fear, fall short nearly 2,500 maunds. The men who made the agreements with me are in general men of good character and some substance; I have made it my business to ascertain that they have not misapplied the advances received, and I trust the money is safe. Under this disappointment I can only propose to the Board either to insist on the money with the penalty, which would nearly ruin them, or comply with their request of allowing them time. I would on many accounts recommend the latter, provided they pay the interest of the money (to which they ought most thankfully to agree), and provided their deliveries are completed in time for the sugar to go by the latter ships of the present season, which I should hope may be done.

Distressing as this circumstance is to me, the unremitting attention I have given, and the endeavours I have used to get in the sugar, afford some relief to my own mind; nor can I well affix any blame to those who made the agreements, which I really believe they have exerted themselves to ful ; but I am hereby convinced that the only way to procure a specific quantity of sugar is to secure, in the first instance, the jaggry required to make it, by advancing to the ryotts who cultivate the cane.

I beg to be favoured with your instructions on this painful subject as soon as may be convenient; and am, &c.

Radnagore, 13th October 1792. P. TOUCHET, Agent.

Agreed, That the following letters be written to the Governor-General in Council and to the Resident:—

Letter from Board of Trade, at Government, 19 Oct. 1792.

My Lord:—We submit to your Lordship in Council copy of a representation from the Resident at Radnagore, dated 13th instant, shewing a disappointment he has experienced in the provision of sugar at that station for the present investment of 1792, by his making engagements with intermediate persons.

The

The Resident's experience and conviction, we observe, corroborate the opinion we submitted to your Lordship in Council on the 25th ult respecting the expediency of making advances to people who have land fit for the cultivation of sugar-cane, and who may be willing to receive them. Letter from Board of Trade to Government, 19 Oct. 1792.

As the Resident imputes no blame to the persons who have failed in their engagements, and that such failure we are of opinion is an obvious consequence of the produce of the country not being equal to the demand, we have desired him to allow them the time he mentions for completion of their engagements, charging them twelve per cent. interest for the forbearance.

This arrangement, though it appears to us the best that can be made under the circumstances of the case, is objectionable, because it mixes the business of the crops of different years, which had better always be kept distinct, and may eventually lead to much intricacy and abuse.

We are, &c.

(To the Resident at Radnagore.)

Sir:—We have received your letter of the 13th instant, and are concerned to observe that you are so much disappointed in realizing the quantity of sugar you expected on the 13th August last. To Radnagore, 19 Oct. 1792.

As you do not impute blame to the parties who have failed, and as we are of opinion that this failure may be attributed to the demand for sugar being greater than the present produce of the country can supply, a circumstance which it is little probable these persons could foresee when they made their engagements with you; we consent to your granting them the time you state for the liquidation of their engagements, on their paying to the Company an interest after the rate of twelve per cent per annum for the forbearance, on the balances respectively due from them.

We must, however, remark, that this arrangement, though it appears to be the best that under the circumstances of the case can be adopted, is objectionable, because it blends the concerns for the produce of crops of different years, and because it may eventually lead to intricacy and abuse against which we request your particular attention.

We are, &c.

Reada letter from Soonamooky, as follows:

Gentlemen:—I have been honoured with your letter of the 14th instant, and am happy to find that you approve the mode of provision which I recommended for the ensuing year's sugar investment. From Soonamooky 25 Sept. 1792.

The objection you mention respecting the intermediate agents, may be in part done away, and I shall endeavour to deal directly with the ryots, as certainly tending much more to the encouragement of an increase of culture, as I shall then be able to show pointedly, the benefits derivable to them from a direct intercourse with the factory.

On consulting with the Collector relative to the Bishenpore district, it seems to be his opinion that the admission of my receipts (in both districts) as a revenue payment, might tend to facilitate an increase of produce: that is, when the goor is ready, I might purchase it from the ryots, paying part money and part by receipt, which should be taken as cash by him: and I conceive that the idea is likely to answer good ends, because it is not likely that a piece of paper will be sought after by decoits, or if stolen (by a register being kept), a duplicate might be granted, and the tender of the original would lead to a discovery of the robbers.

I am, &c.

Soorool, 25th September 1792. J. CHEAP, Resident, Soonamooky.

Agreed, We write to the Governor-General in Council as follows:

My Lord:—The Resident at Soonamooky lately signified to us, that he wished to extend certain engagements he made for the provision of sugar into the Bishenpore districts; but that the people there are so situated in jungles open to the depredations of decoits, and often from necessity obliged to fail in their engagements, that the risks would be far beyond any profits to be derived, and that therefore he would not recommend any advances being made Board of Trade to Government, 19 Oct. 1792.

Board of Trade to Government, 19 Oct. 1792.

made there, unless to persons of undoubted responsibility, and whose property being either at Pattersayer or Soonamooky, two subordinate aurungs, is protected by the guards sent there for the factories.

2. The quality of the sugar the Resident has sent us from Bishenpore appearing to be extremely good, we are desirous of extending the provision from thence; and therefore, upon receipt of the foregoing information signified to Mr. Cheap, our wishes for his consulting with the Collector, Mr. Keating, respecting some mode of making the provision, without suffering by the risks he apprehended; and we trusted that the benefit the Bishenpore country would receive from the extension of this vaulable commerce, and the service it would render to his constituents, would induce the Collector to give any assistance in his power for forwarding these desirable purposes.

3. In reply to this, Mr. Cheap has stated to us that on consulting with the Collector, it seems to be his opinion that the admission of his (the Commercial Resident's) receipts in both districts (*viz.* Bishenpore and Beerbhoom) as a revenue payment, might tend to facilitate an increase of produce; that is, when the goor is ready, he might purchase it from the ryotts, paying part money and part by receipts, which last should be taken as cash by the Collector.

4. Mr. Cheap expresses his favourable opinion of this proposition, because it is improbable that a piece of paper would be sought after by decoits; or if stolen, a duplicate might be granted, and the tender of the original would lead to a discovery of the robbers.

5. Our desire of encouraging propositions which tend to increase the produce of a valuable commodity, and the general benefit of a country which is favoured with a good soil, and which is in so jungly and wild state as the Bishenpore district, induces us to submit the suggestion for the consideration of your Lordship in Council.

6. In the event of your approving thereof, we further submit that the receipts must not be given to any person who may not be freely willing to receive them; that they must be written in English and Bengalese, be signed by the Resident himself, be sealed with his factory seal, be regularly numbered and registered, and that a copy of the register be transmitted every week to the Collector and to us; and that the Commercial Department should be debited for the amount, the same as for any other credit on the Collector.

19th October. We are, &c.

EXTRACT Board of Trade Consultations, 26th October 1792.

Read a letter from Benares:

Board of Trade Consultations, 26 Oct. 1792.

Resident at Benares to Board of Trade, 17 Oct. 1792.

Gentlemen:—I have had one sugar chest made up agreeable to dimensions sent to me from the Export Warehouse, and I find that to get any number of them made up here, they will cost me at least S.Rs. 3 4 per chest; I will therefore defer making any more until I receive your further directions, particularly as I have some observations to offer.

The sugar is in general bought up at different villages from two to fourteen coss distance; and in general, inland. I am obliged to send people and bags &c. to weigh it off, as the merchants will not agree to bring it to my godown in town before weighed; but when weighed where bought, they will pay the bullock-hire to bring it in, or if not they allow some little difference in the price. I must therefore have both cloth and gunny-bags, for I cannot send the chests to the different villages, because they would be too weighty and of improper construction for bullocks (the only land carriage) to bring in. I must next mention to you, that the conveyance from my godown to the boats would be very much increased. I now pay by agreement to bearers for my bales, one with another, four annas, but I don't look upon it that the heaviest of them, *viz.* cossaes forty by two three-eighths weigh more than five or six maunds, or scarce half what a chest of sugar will weigh. I must also suppose that if all my bales were as heavy as the cossaes forty by two three-eighths, that instead of paying at the rate of four annas per bale, it would probably be about six annas, so that I guess for each of the sugar-chests the cooley hire will be nearly one rupee from my godown to the boats. I have also

also taken into consideration the boat-hire, and upon the nearest calculation I can make, a boat that will carry about five hundred maunds of this country weight in bags, will not carry at most thirty-five chests or about three-hundred maunds, and I shall even find difficulty in getting them to do that. The risk will also be very much increased, for should any accident happen, such as springing a leak, the crew would not be able to move one of the chests: but with bags they can put to the shore, and in a few minutes lift out the greatest part of the cargo, and thereby save the whole, and stop the leak in the boat. For these reasons, and as there is time sufficient before the new sugar will be ready, I shall decline ordering any more chests until I am favoured with your reply to this letter.

Board of Trade, Consultations, 26 Oct. 1792.

Resident at Benares to Board of Trade, 17 Oct. 1792.

I am, &c.

Ghazeepore, 17th October 1792. JOHN LLOYD, Resident.

The statement sent to the Court of Directors per Ganges, respecting the packages of sugar, shews, the Board of Trade observe, that chests are very expensive, as they are also a very inconvenient mode of package. For these reasons, as well as for those urged by Mr. Lloyd, Agreed, to be authorized to pack in bags, and the following letter is accordingly written to him:

Sir:—We have received your letter of the 17th instant, and in consequence of the circumstances set forth in it, desire you will continue to pack your sugar in bags.

Board of Trade, to Resident of Benares, 26 Oct. 1792.

We are, &c.

Received the following letter from Commercolly:

Gentlemen:—I had the honour to address you on the 5th instant, requesting a supply of C.Rs. 30,000 on account of the provision of sugar, since which many chasses, pykars, &c. who had before refused advances, have come in to offer the cane they have on the ground, and I find a further sum of S.Rs. 35,000 will be wanting immediately.

Resident of Commercolly to the Board of Trade, 21 Oct179 2.

2. In my letter of the 20th of August, I estimated the quantity of sugar procurable here at eight or ten thousand maunds; but I now find the information I then had was very erroneous, and that double that quantity may be obtained for the shipping season of 1793-4.

I have, &c.

Commercolly, 21st October 1792. RICHARD BECHER, Resident.

Agreed, That application be made for the further advance required by the Resident.

EXTRACT Board of Trade Consultations, 27th October 1792.

Read a letter from Santipore:

Gentlemen:—In my letter of the 18th of August I had the honour to inform you of the measures I was taking to secure a provision of sugar from the produce of the ensuing crops. Since then I have appointed gomastahs at four stations, to advance for goor to ryotts who cultivate the cane; and on the 30th of September advances had been issued for eight-hundred and eighty-six bigahs. I expect in the coarse of this and next month to advance for one thousand bigahs more.

From Resident of Santipore, 22 Oct. 1792.

2. The ryotts on receiving advances agree to deliver the whole produce of their crops, for which they are to be paid at the fair market rate of the time, to be settled previous to the delivery of the goor, with the following exceptions; that in consideration of money being given them in advance, they are to abate one anna in the rupee from whatever the market price may be, for the amount advanced to them, and also to deliver one additional seer of goor for each rupee previously advanced.

3. I wished to simplify the agreement by fixing the abatement in price at more than one anna, and leaving out that part respecting the delivery of an additional seer of goor; but I found that the above was their usual mode of dealing with merchants, from which they were unwilling to depart; and this being the commencement of the business, I did not think it worth while to attempt any innovation this season.

Board of Trade Consultations, 27 Oct. 1792.

4. I hope you will approve of this mode of provision, which will at all events ensure a considerable quantity of goor to be manufactured into sugar, and will not prevent me availing myself of any other opportunities that may offer of contracting with moiras or sugar-makers.

5. The provision by contract through moiras would have been infinitely less troublesome than the detail of advancing and keeping open accounts with the ryotts; but I do not think that they can be depended on for any considerably quantity, nor that sugar could be procured from them on such favourable terms as I expect it will be from advances.

6. I have found it necessary, in making the advances, to employ some people as delolls, who were acquainted with the ryotts, to ascertain the quantity of land each ryott who came for advances had in cultivation; they will be useful at the time of cutting the cane, to prevent ryotts disposing of any part of the goor engaged to the Company, and are to be accountable for outstanding balances. I have not yet settled any fixed compensation for these people, but I would propose to allow them half an anna for each maund of goor delivered by them into the factory.

I have, &c.

Santipore, 22 October 1792. E. Fletcher, Resident.

Agreed, That the Resident be informed that the mode of provision he has adopted for the sugar investment is approved.

Extract Board of Trade Consultations, 5th November 1792.

Read a letter from the Governor-General in Council.

Board of Trade Consultations, 5 Nov. 1792.

Gentlemen:

We have received your two letters, dated the 25th Septemberand 19th ultimo.

Letter from the Governor-General in Council to the Board of Trade, 5 Nov. 1792.

We are sensible of the great pains which you have taken to ascertain the best mode of making a provision of sugar; but upon a full consideration of the subject, combined with circumstances which probably may not have impressed themselves so forcibly upon your mind as ours, it appears to us that it will be in every point of view more advisable to contract or engage with the boilers of sugar and native dealers, than to make advances to the ryotts and cultivators of the cane as proposed by you. The question being of the greatest importance, we shall detail to you our opinion on your arguments for and against these modes of provision, and the reasons which have induced us to decide in favour of the former.

The husbandman will be equally well supplied with stock by the advances issued by Government to the dealers in goor or sugar-boilers, as if advances were made immediately to the ryotts. Your argument, therefore, founded on their stated want of stock, admitting it to be just, only proves that want; but does not evince that it is preferable to furnish the stock required by Government, making advances immediately to the cultivators instead of contracting with the boilers and native dealers, and leaving them to make the advances to the cultivators in such manner as they may think best calculated to enable them to fulfil their engagements with the public.

With respect to your observation, that the ryott, to induce him to extend his cultivation of sugar, must be confident of being able to dispose of it at an encouraging price, it appears to us that when dealing with the sugar-boilers and native dealers in goor, he will be certain of obtaining the full market price. This must always be ample encouragement, especially under the present increased demand; he cannot expect or demand more than that price, nor will it be in the power of the native dealers to oblige him to accept less. Considering the multitude of ryotts that cultivate sugar throughout the country, it will be as impossible for them to enter into a combination to raise the price of sugar, as for the numerous native dealers concerned for themselves, the public, and individuals, to combine to keep down the value of it. The cultivators, therefore, will sell, and the native dealers will always be able

to

Board of Trade Consultations, 5 Nov 1792.

Letter from the Governor-General in Council to the Board of Trade, 5 Nov. 1792.

to purchase at a fair market price, equally advantageous to both parties, which will be regulated by those equitable principles which alone can influence it where the trade is entirely free. The justness of the above positions is apparent. It is equally evident that from the competition to contract which must necessarily be created amongst the native dealers, Government will obtain the sugar from them at the lowest price at which they can afford to furnish it. Of this you seemed convinced, as you state this competition, and the probability of the contractors offering at a lower price than they can afford, as one of the objections to providing the sugar through them.

On your objections to the mode of contracting with the native boilers and merchants, the following remarks occur to us:

1st. If you receive jaggry from the cultivator, you must incur the expense of boiling and manufacturing; so that unless you can perform this process cheaper than the native boilers (which, all cirumstances considered, such as the expense of works and workmen, appears doubtful), no saving would arise from your taking the whole process of manufacturing upon yourselves. Notwithstanding, therefore, a double profit, *viz.* that of the cultivator and the boiler, will be charged upon the sugar if it be provided by contracting with the latter, yet as, for the reasons stated in this and the preceding remarks, both these profits must necessarily be fair and moderate, the cost would not perhaps exceed the price which it would stand you in were it to be provided in the manner recommended by you.

2d. It is to be presumed that the contractors, provided care be taken to engage only with such as are men of responsibility, will for their own sakes make the requisite advances to the cultivators, as being the only mode by which they will be able to ensure the performance of their engagements to the greatest advantage to themselves.

3d. Penalties may be stipulated, should it be proved that a contractor has disposed of sugar to other persons without fulfilling his contract with Government; or, what perhaps will be more effectual, the contractors may be bound to the payment of a heavy penalty in case of failure in the performance of their engagements. We doubt, likewise, whether it will answer to individuals to purchase for a continuance any large quantities of sugar, at so enhanced a price as to render it worth the while of the latter to risk the consequences of breach of engagement, which, besides subjecting them to the payment of the stipulated penalty, would be attended with a loss of character and credit, and of course exclusion from all future concerns with Government.

4th. A fair and simple bargain cannot be intricate, nor can there be any mystery in transactions in which a numerous body of individuals, dispersed over the country, and unconnected with each other, must be concerned; your extensive communication by means of the Commercial Agents in the different parts of the country, your knowledge of the expense of cultivating the cane, the means you must have of judging of the effect of competition, and every other circumstance likely to influence the price of the sugar, will enable you to discover at once any general imposition, as well as to detect any unfair means that may be used to enhance the price of the commodity at any particular aurung. The cultivation of the cane, taking one year with another, will never be more expensive than it is at present. If, therefore, the cultivators are unshackled, and the market is left open to them, they will increase the cultivation in proportion to the demand, so that any temporary enhancement of price is an evil that must necessarily correct itself.

5th. We have stated above what appears to us to be the best precaution against breach of engagement. For every failure the contractors will be indiscriminately liable to the penalty. If they cannot prove to your satisfaction that they have not been guilty of deceit, they will have no claim to forbearance. The consequence of the failure to the public must be the same, from whatever cause it may proceed. But the possibility or probability of fraud or abuse is not a sufficient ground for rejecting a plan that is certainly good in principle and practice, for the adoption of one that is evidently not so. The frauds or failures of the contractors, which are the evils apprehended from providing the sugar through them, can only occasion a temporary diminution in the quantity to be delivered

to

Board of Trade Consultations, 5 Nov. 1792.

Letter from the Governor-General in Council to the Board of Trade, 5 Nov. 1792.

to Government, and which experience will enable you to guard against in future. But the evils which are to be apprehended from Government making advances immediately to the ryotts, are of a far more serious nature. They are such as will operate to the discouragement of cultivation of the article itself, and strike at the root of the prosperity of the country. The above remark is equally applicable to the two preceding objections.

6th. This objection supposes that a consequence will result from contracting with the native dealers, the very reverse of that with which the other objections presume it will be attended. The arguments on which the latter are founded, all tend to shew that the price will be enhanced. The present objection states an apprehension that a competition will be created amongst the merchants to deliver the sugar at a lower price than they can afford to furnish it. Speculators are often tempted to buy up a commodity in the hope that, from its not being procurable elsewhere, they may be able to sell it again at an exorbitant price; a competition amongst merchants to sell for less than they can afford, cannot long exist. There certainly will be a competition, but we think the effect of it will be to ensure the sugar to the Company at a moderate price, and at the same time leave a fair profit to the contractor.

Our observations on your first objections are applicable to your remark respecting the necessity of loading the article with as few charges as possible, in consequence of the rivalship of the sugar imported into Europe by other nations. We shall add, that it appears to us impossible by any means to procure the sugar at a lower rate than the market prices, without injustice to the cultivator. Sugar is a necessary of life, and cultivated by all descriptions of ryotts and cultivators of lands. It cannot, therefore, be monopolized and kept down to a fixed price, like the opium, which is cultivated by a number of ryotts comparatively small, and these of the lowest classes. If, therefore, the cultivators who do not receive advances from Government can sell their sugar to private dealers, of whatever description, at a higher price than Government pay to those who do receive advances, the latter will certainly consider themselves oppressed. If it be intended to give the fair market price, the surest and best mode of ascertaining that price, as before observed, will be to contract with the native dealers.

Our opinion on your statement of the advantages which may be expected from Government making advances immediately to the cultivator of the cane, is as follows:

We have before noticed that the cultivator will be as certain of being furnished with the means of working the land, and of having the produce taken off his hands, and (in his opinion) probably more certain of receiving a fair price for it under a provision made through the native dealers. It does not appear to us that the ryotts would consider these dealers only as casual customers: although perhaps, incapable of studying permanent causes or adventitious circumstances, they would certainly know that so long as sugar continued to be in demand by Government, advances would be made to the native merchants, who must necessarily distribute such advances to them. They would not be better able to judge how long the demand was likely to continue, whether the stock advanced came mediately or immediately to them from Government, and consequently both modes of provision must be the same to them in this respect. It is most probable that they will be influenced chiefly by the immediate demand, and continue to extend their cultivation as long as it lasts.

With regard to your remarks respecting the two objections which you mention may be started against Government making advances immediately to the cultivator, we must observe, on the second objection respecting the possible loss by balances, that the extent of the evil is sufficiently known, and that in its operation it can only affect the public in an inconsiderable degree, by some diminution in the quantity of sugar expected to be provided. The first objection, which states the consequences that may result to the cultivators, is the most material. These consequences appear to us rather probable and certain, than possible and presumptive, as you have stated them. It is not easy to ascertain the real cause of failures, and to discriminate between those arising

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arising from calamity, and such as proceed from fraud or embezzlement. Indulgence to real sufferers prompts the dishonest to urge similar pleas, in the hope of withholding what is due from them. The officers intrusted with the business are therefore compelled to act upon general principles, to save the public from loss and their own character from imputation, and to enforce payment of the balances from defaulters with little distinction. The consequence is, that real sufferers must often be obliged to work off advances, under a load of distress, or sell their stock to get free from so powerful a creditor as the Government. The conduct of the business must sooner or later subside into these principles. We apprehend that the number of instances of forbearance will necessarily be far exceeded by cases of distress arising from the accumulation of balances.

3. This objection to making the advances to the ryotts, *viz.* that it prevents there being a merchant between the cultivator and exporter, certainly merits attention. On your observation that this objection will probably be urged by European speculators who have no interest in the soil, we must remark, that although they have no such interest, they are certainly good friends to the cultivators. They cannot indeed be their enemies, for they have no power over them, and must pay them what they think proper to demand for their sugar. The happiness of the natives forms as little, perhaps, the immediate object of Government in making advances for sugar, as the private merchant: both have the mercantile profit in view, and little else. If the stock of the European speculators be so small as you have stated, it cannot have even a temporary effect upon the provision for the Company, and much less a permanent one. But one of our principal reasons for wishing to interpose a person between Government and the ryott is, that it leaves the latter, on whose voluntary exertions the desired extension of the cultivation of the cane must depend, a free agent. To him it will be an effectual security for obtaining the fair market price for his commodity. We are satisfied, that were the mode of provision recommended by you to be adopted, you would take every precaution which zeal and ability could suggest, that advances should be made to those only who were willing to receive them, and that the whole transaction should be conducted upon fair principles. But we think it would be extremely difficult to guard against the commission of abuse or oppression, by the many native officers who must be employed in the provision of the sugar, either from an eagerness to accomplish successfully the business entrusted to them, or from interested and bad motives. They must necessarily be armed with some authority, to enforce the performance of agreements concluded with so numerous a body of individuals. The greatest part of the principal ryotts would be liable to be summoned to their kooties or factories, where they would exercise a species of authority over them, wholly incompatible with free and fair dealing. Many of these agents would avail themselves of their official situation to provide sugar on their private account; and when their influence was once established, those ryotts who might not be prevailed upon to receive advances would be intimidated into the acceptance of them. Obscure individuals must always feel themselves unable to contend with the immediate officers of Government in transactions of this nature, and although they may obtain redress by a law process (which to such persons is of itself the greatest of all grievances), they must in the first instance submit to the oppression. This must necessarily be the practice in such a system, whatever injunctions you might issue to the contrary. The representation of the Collector of Dinagepore, forwarded to you in our letter of the 28th September, in which he states that money had been thrown into the ryotts' houses as advances for sugar, and that a general alarm had in consequence been excited throughout his district, evinces the bad policy of a system, which puts in the power of the subordinate officers intrusted with the execution of it, to commit abuses so dangerous to the prosperity of the country.

Not copied in this Collection.

It is incumbent on us to be careful that the great and permanent interests of the Company are not injured by too great an attention to a partial or temporary advantage. In every country agriculture is the foundation of commerce, and of the public prosperity: but in this it is more immediately the source of the public revenue and the power of the state. We therefore think it most essential to the interests of the Company and of the nation, to guard against the adoption of any measure which might check the industry of the

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cultivators, and consequently retard the improvement of the lands. For the reasons above stated we are convinced, that the adoption of the plan you have proposed for providing sugar would greatly interefere with these important objects: we are therefore of opinion, that by contracting with the native dealers and boilers, instead of making advances immediately to the ryotts, although so large and immediate a supply as might be wished-for may not be procurable, the produce will increase in a much more rapid proportion in future, and that ultimately a much larger quantity will be procurable, on terms equally advantageous to the commercial interests of the Company, and far more so to the country. We therefore recommend that means be immediately adopted to make engagements with the native dealers and boilers for the delivery of sugar to be sent home in 1794-5, that they may take the proper steps for having the ground prepared. You will, of course, also complete your arrangements for providing as large a quantity as possible from the crops of cane now upon the ground.

We shall close these remarks with observing, that the letter from the agent at Radnagore, stating the failure of some of the native dealers in their engagements, furnishes no argument whatever against the plan we have directed to be adopted. Their engagements could only have been made on a reliance of being able to perform them from the ordinary supplies brought to market, and which were probably bought up by the numerous competitors. These were circumstances which the contractors could not be expected to foresee: the failure therefore is not attributable to them, and is no proof whatever that they would be equally unsuccessful in future, where they seem to rely upon the market supplies, considering the additional quantity of sugar that is likely to be produced in consequence of the increased demand, and certainly affords no ground to apprehend that they will fail in performing the agreements proposed to be concluded with them for the delivery of sugar in the beginning of 1794, as they now have it in their power to ensure the fulfilment of them, by making proportionate advances to the cultivators of the cane.

We are, &c.

Fort William, 5th Nov. 1792.

CORNWALLIS,
PETER SPEKE,
WILLIAM COWPER.

Minute of the Board of Trade, 5 Nov. 1792.

THE Board of Trade are concerned for the difference of opinion between the Governor-General in Council and themselves; but on an object of so great importance as the present, the duty they owe to the Company, which is paramount to every other consideration, impels them to speak their sentiments with all deference. This consideration obliges them now to say, that they do not feel themselves convinced by the arguments the Governor-General in Council has stated; they will, however, do the utmost in their power to give full effect to the resolution of the Governor-General in Council, and shall have a pleasure if the issue proves their measures to be better founded than those the Board propose. In the course of the ensuing season they will record their deliberations at length, and they trust they shall find assistance from the result of the inquiries from the several Collectors and Commercial Residents, which are still pending in consequence of the Court of Directors' orders of the 25th April last.

As the season is advancing, they in the mean time proceed to carry into immediate effect the resolves of the Governor-General in Council, by issuing the following order to the undermentioned agents:

(To the Agents at the Sugar Aurungs.)

Board of Trade to the Sugar Aurungs, 5 Nov. 1792.

Sir:—The present being the season of the year in which the ground that is wanted for the cultivation of sugar-cane should be begun to be prepared, we have to desire that you will forthwith take measures for receiving from the districts within the circle of your business a quantity of sugar, to be exported from hence in the shipping season of 1794–5.

The Governor-General in Council has been pleased to direct that the provision shall be made by means of engagements to be entered into with the native dealers or boilers of sugar; you must, therefore, make engagements with

with persons of this description, for such quantities as they may respectively be willing to engage for.

Board of Trade to the Sugar Aurungs, 5 Nov. 1792.

In order, as far as possible, to guard against disappointment or abuse, you must be careful to deal with men of responsibility, and to stipulate for the payment of a heavy penalty in case of failure in the performance of their engagements.

You are not to make any engagements immediately with the cultivators of the cane, or to make any advances to them. It is to be presumed that the persons described in the preceding paragraph will, for their own sakes, make the necessary advances to the cultivators, as being the only mode by which they will be able to ensure the performance of their engagements with the greatest advantage to themselves; and we have thus early moved the business, that they may take the proper steps for having the ground prepared.

You will be pleased, as early as you can, to inform us of the quantity of sugar for which you may be able to make engagements, what monies you may require for the purpose, and when you will require them. The advances you may take up upon this account must be kept distinct, and considered as upon account of the investment of 1794.

You will be pleased also to complete your arrangements for providing as large a quantity of sugar as possible from the crops of cane now upon the ground. This provision is required for the shipping season of 1793–4; and you must observe that the above directions respecting 1794-5 are not to interfere with any measures you may already have adopted upon our instructions of the 3d August last. But you will be pleased to apply them to any new measures remaining to be undertaken for the provision of 1793–4.

We are, &c.

Additional to Santipore:

We wish to hear from England respecting the date-tree sugar, ere we give any instructions respecting the provision of that article for 1794–5; you are therefore to consider the above as applying only to cane-sugar.

ANSWERS to QUESTIONS in Commercial Letter to Bengal of 25th April 1792.

(From the Resident at Benares, to the President, &c. Members of the Board of Trade, 10th December 1792.)

From the Resident of Benares, 10 Dec. 1792.

Gentlemen: I have received your letter of the 12th October, and herewith you will receive my replies to the information required by the Honourable Court of Directors, in their letter of 25th April 1792.

I am, &c.

Ghazeepore, 10th December 1792. JOHN LLOYD, Resident.

Questions in the Court's Letter.	*Answers.*
1st. The number of begahs of sugar-cane cultivated in the districts, as well in rent-free as in nizamut lands?	1st. My situation in the zemindarry as a private person, puts it out of my power to ascertain it with any degree of accuracy. The Public Resident or Collector is the only person who can answer it satisfactorily.
2d. The average rent per begah?	2d. Answered in my letter of 30th of January last.
3d. What increase has taken place within a few years past?	3d. The Collector only can reply to this with accuracy.
4th. What increase it is further capable of, under any, and what kind of encouragement?	4th. I should imagine a considerable increase, but to what extent the Collector only can ascertain. The encouragement, I believe, need only be a liberty for the farmers to cultivate what will be most profitable to them. The cane, even at the price of sugar before it became an article of export to Europe, *viz.* about S.Rs. 6 per maund of 96 sicca-west, yielded, as far

From Resident at Benares, 10 Dec. 1792.

Questions in the Court's Letter.	*Answers.*
	far as I can learn, a better profit than any thing they could cultivate, cotton excepted; and as it is reasonable to suppose that it will bear a much higher price if it becomes a permanent article of export to Europe, their profits will increase with it.
5th. Does the cultivation of sugar-cane labour under any peculiar disadvantages?	5th. Not any particularly that I am informed of.
6th. If any, are they local or general?	6th. I cannot give any reply to this, more than I have done to the preceding question.
7th. What is the quantity of lands now lying in waste in the district?	7th. The Collector only can reply to this with accuracy.
8th. Can the ryotts be prevailed upon to apply any portion of these lands to the culture of sugar-cane, and upon what terms and conditions?	8th. If the demand for sugar increased, as no doubt it would upon its becoming a permanent article of export to Europe, it is very probable that the ryotts would apply a portion of the waste lands to the cultivation of the cane, without any other encouragement than being left to consider their own interest, and to cultivate without exception what they pleased.
9th. What is the mode of culture?	9th. Answered in my letter of 30th January last.
10th. What is the expense of cultivation per begah?	10th. Including the rent of the ground, I am informed it is upon a medium about eleven rupees.
11th. What is the average quantity of canes produced per begah, and their value?	11th. I have asked this question without success. Whether the ryotts have ever ascertained it themselves, or if they have an aversion to make it known, I really cannot say: but the Collector can ask it officially, and obtain the information with accuracy.
12th. What is the rate of profit per annum derived to the ryott upon each begah?	12th. In my letter of the 21st September I mentioned the medium produce of bhelee per begah to be about 15 maunds; and, as far as I can learn, the medium price of it, when sugar sold for about six rupees per maund, was nearly one rupee eight annas; so that 23 rupees, the cost of 15 maunds, being put against 11 rupees for the expense of cultivation, it will leave S.Rs. 11 8 annas profit to the ryott.
13th. In what degree is the sugar-cane more or less beneficial to the ryott, than the mulberry, rice, or other vegetable productions?	13th. The profit is much more considerable than grain of any kind, or other vegetable productions; mulberries are scarce ever cultivated in the district, and I am informed there is no cultivation so profitable as cane, cotton excepted; but if I was to attempt to mention the degrees of profit, it is very probable that my information might not be good, and it is the Collector only who can obtain it correct.
	14th. What

Questions in the Court's Letter.

14th. What quantity of sugar is a begah of canes supposed to furnish per annum or crop?

15th. How is it prepared?

16th. What are the expenses attendant upon its preparation, noting each particular?

17th. Are there any established sugar-works in the district, and by whom are they held, natives or Europeans?

18th. What is estimated to be the total quantity of sugar produced in the district each year, on an average, distinguishing in maunds of 80 sicca-weight, and of what different qualities?

19th. Is the quantity produced within the district sufficient for, or does it exceed the internal consumption?

20th. If it falls short, from whence is the deficiency supplied, and to what amount?

21st. If it exceeds, what is the surplus, and how is it disposed of?

22d. What is the present current rate of its cost, distinguishing (as far as is capable of being described) the several qualities; first in the usual species of rupees, and the customary rate of the maund in which it is bought or sold; and afterwards (for the sake of more ready comparison) reducing such cost to the sicca rupee and bazar maund of 80 sicca-weight?

23d. What reduction is possible to be effected in such rate of cost, should it become an extensive and permanent article of import into Europe?

24th. What would be the most eligible mode of making purchases for the Company, by advances to the ryott through the Company's public Commercial Agent, by purchases in the

Answers.

From the Residen at Benares, 10 Dec. 1792.

14th. Answered in my letter of the 21st September last.

15th. Answered in my letter of the 30th January last.

16th. Per maund:

	Rs.	Ans.	Ps.
Fire-woood.....	0	4	0
Labour	0	5	0
Iron and earthen vessels, &c. utensils	0	7	0
Nearly.....Rs.	1	0	0

17th. There are many held by the natives, and I understand that Europeans are establishing some.

18th.

Chenee, 1st sort.....	25,000
Ditto, 2d sort	15,000
Ditto, 3d sort	5,000
Shuckar	5,000
Maunds of 80 sicca-weight	50,000

19th. It always exceeds the internal consumption.

20th. The natives do not remember it to have fallen short.

21st. About 40,000 maunds. In this year the exportation has chiefly been, on account of the great demand, into Bengal. When that demand was not so great, a considerable quantity used to be bought by the native merchants at Mirzapore, and exported inland, through Oude, into the Maharatta and Tippoo Sultan's country.

22d. Cheenee, 1st sort, Trissoolys 11 per maund of 96 sicca-weight.
Do. 2d sort, 9 per do. do.
Do. 3d sort, 7 8 per do. do.
Shuckar, 4 8 per do. do.
Cheenee, 1st sort, S.Rs. 8 7 per maund of 80 sicca-weight.
Do. 2d sort, 6 14 9 per do. do.
Do. 3d sort, 5 12 3 per do. do.
Shuckar, 3 7 3 per do. do.

23d. My letters of the 17th and 24th August last will answer this question the best way I am capable of doing it.

24th. By the first mode, sanctioned by Government, and to be made upon fair terms: this does not admit of a doubt; but, in my situation, I have already given my opinion fully on this

Questions in the Court's Letter.	*Answers.*
From the Resident at Benares, 10 Dec. 1793. mofussel, through private individuals, at Calcutta only, or in what other mode?	head, in my letters of 8th January and 17th and 24th August last, and to them I beg leave to refer you.
25th. To what purpose is the dregs (as the molasses, &c.) that arise in the course of the manufacturing process applied; do they, or do they not, turn to any profitable account?	25th. My letter of the 30th January last mentions the quantity of molasses left from the quantity of bhelee in making a maund of sugar, and what quantity is lost. The molasses is turned to account by the distillers of spirituous liquors, and is sold for about 12 annas per maund.
26th. Is the refinement of sugar practised within the district; if so, whether in the European, or by what other mode, and what is the rate of expense that attends such refinement?	26th. The mode of refinement is set forth in my letter of 30th January last, and the expense attending it is answered opposite to the 16th question of this extract.
Ghazeepore, 10th December 1792.	John Lloyd, Resident.

(From the Resident at Commercolly, 25th February 1793.)

From the Resident of Commercolly, 25 Feb. 1793. Gentlemen:—I have the honour to send such replies as I have been able to obtain to the queries that accompanied your letter of the 12th October, and am sorry it has not been in my power to get better information upon the several points.

I am, &c.

Commercolly, 25th February 1793. Richard Becher, Resident.

1st. The number of begas of sugar-cane supposed to be cultivated in these aurungs is between four and five thousand, of which three-fourths are nizamut lands, and one-fourth rent-free lands.

2d. The average rent per bega about three rupees.

3d. An increase of near two thousand begas is said to have taken place since the Bengal year 1178.

4th. A very great increase might be made in the cultivation of this article, by allowing a temporary exemption of revenue to such people as were willing to cultivate the waste lands, of which many thousand begas may be found fit for the growth of sugar-cane.

5th. Answered on the 5th of August.

6th. I have not been able to learn what disadvantages exist at other places.

7th. I have not been able to ascertain the quantity of waste lands. The Collector of the district will be able to furnish the information on this head.

8th. Four thousand begas or more of waste lands might be applied to the culture of sugar-cane, but the ryotts will not engage to bring them into cultivation unless some encouragement is held out to them; the most effectual mode would be giving them takauvie, and allowing an abatement of revenue for the first and second years.

9th. Answered under date the 5th August last.

10th. Ditto ditto

11th. The estimated number of canes produced in a bega of lands is 7,000 or 7,500; their value from thirty to thirty-five rupees.

12th. The ryott's profit per bega is estimated at ten rupees.

13th. Answered in my letter of the 5th August.

14th. If the crop is favourable, a bega of cane is supposed to yield from six to seven maunds of sugar of sixty sicca-weight.

15th. Answered in my address of the 5th August.

16th. There

16th. There being no established sugar-works in these aurungs, I am unable to ascertain the exact cost of making sugar, until I have it in my power to make trial of the new goor. From the Resident of Commercolly, 25 Feb. 1793.

17th. There are no sugar-works in the district except those lately erected for the Honourable Company. The natives however are beginning to build them, in consequence of the introduction of the article of sugar into the investment.

18th. Answered in my address of the 5th August.

19th. Sugar has always hitherto been imported from other districts for consumption, but large quantities of the goor purchased here were annually exported to other places.

20th. About 1,500 or 2,000 maunds were annually imported from Rungpore and Patna for the consumption of this place.

21st. There is a very considerable surplus of goor, which was exported to Dacca, Moorshedabad, and Calcutta.

22d. The cost of sugar here cannot be ascertained until trial is made of the new goor.

23d. If sugar becomes a permanent and extensive article of export, some reduction of price may be expected to take place as the cultivation increases, but the extent of it cannot now be ascertained.

24th. The most eligible mode of making purchases for the Company would be by advances to the ryotts, if proper security can be obtained against balances.

25th. The dregs that arise in the course of the manufacturing process are purchased by the natives for mixing with tobacco, &c. They are likewise used in making cement for buildings: the price they bring is generally about one-third of the original cost of the goor.

26th. The refinement of sugar is not practised within these aurungs.

RICHARD BECHER, Resident.

(From the Resident at Dacca, 1st March 1793.)

Gentlemen:—Having referred the inquiries directed in your letter of the 12th October, relative to the cultivation of sugar, to people competent from their situations to answer many of the points contained in them, I have now the honour to enclose two Reports on the subject: one from the gomastah of the eight subordinate aurungs of this factory, comprising considerable portions of each of the Collectorships of the Dacca Province. From the Resident of Dacca, 1 March 1793.

One, the result of personal inquiry, merely relative to Dacca Jelalpore, the district in which this factory is situated. *Mr. Taylor's personal observations only are printed. The gomastah's account is obscure.*

Much of the information communicated in these Reports must necessarily be uncertain: it is from the Collectors only, as represented in my letter of the 8th December, that many of the questions can accurately be replied to, and your answer of the 13th did not encourage any reference on my part to them.

Musters of the sugar mentioned in the answer to the twenty-second question in the Report relative to Dacca Jelalpore accompany this.

I have, &c.

Dacca Factory, 1st March 1793. JOHN TAYLOR, Resident.

1st. The precise number of begas cultivated in Dacca Jelalpore can only be ascertained by measurement. By estimate about 6,000 begas are cultivated.

2d. The rent varies in different pergunnahs from four to six rupees per bega. This is calculated not per annum but per crop. Sixteen months elapse from the preparation of the ground to the cutting of the crop.

3d. This question cannot be answered without a moffusil investigation.

4th. Substantial

From the Resident of Dacca. 1 March 1793.

4th. Substantial ryotts pay rent, cultivate the lands, and reap the harvest. Other ryotts, unable to pay revenue, act simply as burgas, bearing the expense of cultivation, and paying the proprietor one-third of the produce, in lieu of revenue. A third description of ryotts, too poor to provide for the expense of cultivation, are supplied by the proprietor at the rate, for every bega, of four rupees account tuccauvy, four rupees by way of loan, with plants, and all the expenses of cultivation and manufacture. After the goor is made the ryott delivers half of it to the proprietor of the land, and from the sale of the other half repays the tuccauvy, the loan with interest, and half the expense of cultivation and manufacture. The encouragement calculated to increase the cultivation would be a remission of one-fourth of the revenue at present paid, a previous tuccauvy or advance suited to the circumstances of the ryotts, the receiving it back without interest, and the postponing the repayment, together with the revenue, till after the harvest be collected in.

5th. The cultivation of sugar-cane requires a more than ordinary degree of labour and expense. These are the only disadvantages peculiar to the cultivation.

6th. If within two months after planting the sugar-cane a too great abundance of rain should fall, the plants would be injured. On the other hand, should there be no rain in that interval, though the want of rain may be in some degree supplied by artificial means, yet the produce under such circumstances would prove but indifferent. These inconveniencies are of a general nature and irremediable.

7th. Without a measurement this question cannot be correctly answered. By estimate, ten lacs; but not more than about four thousand begas, adapted to the growth of sugar-cane.

8th. Answered in the reply to the fourth question.

9th. In Cautic or Augun (October, November,) the ryotts begin to prepare their ground. They first dig a trench round their fields, and raise a mound of about three feet in height; if the ground to be cultivated be waste, about nine inches of the surface are taken off, and thrown without the enclosure. The ground is ploughed to the depth of nine inches more. The clods are broken, and the earth made fine. In Maug or Faugun (January, February,) the sugar-cane is planted; a month afterwards earth is raised about the plants; after another month this is repeated. The crop is cut in Pooze and Maug, (December, January). If the ground be not waste, but cultivated, the surface is not taken off. After cutting the crop, it is not usual again to grow sugar-cane on the same ground for eighteen months, on account of the indifferent produce afforded by a more early planting.

10th. The expenses of cultivated ground are as follows:

Ploughing, twenty-five ploughs ..... Rs.	2	5	6	
Plants, five cawns or 6,400	2	0	0	
Twenty coolies employed from the first preparing of the ground to the time of planting	1	14	0	
Twenty ditto subsequently employed in raising earth about the plants, and other duties	1	14	0	
Rent on an average	5	0	0	
				13 1 6
Making goor:				
Hire of four bullocks	0	4	0	
Two coolies for cutting the canes in small pieces...	0	3	0	
Two ditto for paring them	0	3	0	
One ditto for boiling the juice expressed from the canes	0	1	6	
One assistant to ditto	0	1	6	
One bullock driver	0	1	6	
Per day	0	14	6	
Is for eight days	7	4	0	
Carried forward		—	.....	13 1 6

From the Resident of Dacca, 1 March 1793.

Brought forward.....	— Rs.	13	1 6
For eight days...Rs. 7 4 0			
Pots for boiling the juice 0 5 0			
Twenty-four pots for receiving the goor after being boiled 0 13 0			
Petty charges..... 0 1 6			
		8	7 6
Total expenses per bega of cultivated ground		21	9 0
The expenses attending waste land are greater: the removing about nine inches of the surface and additional ploughing cause an increase of expense upon the above statement of about.....		2	0 0
Total expenses per bega of waste ground.....Rs.		23	9 0

11th. If the produce be good, a bega will yield five hundred bundles, each bundle containing from seventy to seventy-five canes, of the value of half an anna per bundle.

12th. A bega on an average produces twelve maunds of goor, of the value of 1 12 per maund of eighty sicca weight to the seer, amounting to... 21 0 0

The tops of the canes, which are used for planting, produce..... 2 0 0

Total produce..... 23 0 0

The expenses of cultivating and manufacturing, as detailed in the tenth article, are 21 9 0

The net profit..... 1 7 0

When the produce is indifferent, instead of profit the ryot sustains a loss by the cultivation.

13th. No mulberry grows in this district; the profit from sugar is greater than that from grain land. But excepting to the southward, where the land is higher, almost the whole of the district is low, and produces only grain.

14th. No sugar is made in this district.

15th. The cultivators of sugar-cane make goor only. Some of the purchasers of goor improve it by putting it in bags and pressing them between two planks to express the liquid of the goor; after this operation the goor remaining in the bags is called lol boora.

16th to 19th. See answer to the fourteenth article.

20th. The consumption of this district is estimated at six or seven thousand maunds of sugar per annum. The sugar is furnished by the merchants of Dacca and Narrain Gunge, who are supplied from Goragaut and Patna.

21st. See answer to the fourteenth article.

22d. The 1st kind or Goragaut, sells for C.Rs. a. 11 4 per maund of 80½ sicca-weight to the seer.

The 2d or Patna	10 0	...	...	ditto
The 3d ditto	9 0	...	...	ditto
The 4th kind or Curroore, made the date-tree	8 0	...	...	ditto

The foregoing present selling rates reduced into Sicca Rupees and the bazar maund of eighty sicca-weight, will stand as follows:

The 1st kind	10 6 7	per maund of 80	sicca-weight	
The 2d	9 4 0	...	...	ditto
The 3d	8 5 3	...	...	ditto
The 4th	7 6 5	...	...	ditto

23d. As no sugar is made here, a constant and considerable exportation of that article to Europe from this country would, instead of lessening the price at Dacca, increase it.

From the Resident of Dacca, 1 March 1793.

24th. By advances to the ryots through the commercial Agent, in order that the article may be obtained as near as possible to its first cost, and that the ryots becoming dependants of the factory may be protected by the regulations: advantages which could not equally attend any other mode of purchase.

25th and 26th. See answer to the fourteenth article.

Dacca Factory, 1st March 1793. J. Taylor, Resident.

(From the Resident at Gollagore, 10 February 1793.)

From the Resident at Gollagore, 10 Feb. 1793.

Gentlemen:—I beg leave to lay before you such information as I have been able to obtain in elucidation of the queries respecting sugar transmitted in your letter of the 12th October.

The ryotts and others are generally averse to afford information; but what I could not obtain will, I make no doubt, be furnished by the Collector of the district, who possesses authority to require the necessary information.

I am, &c.

Gollagore, the 10th February 1793. Rd. Waite Cox, Resident.

1st 3d. and 7th. These queries can alone be replied to by the Collector, as they relate to subjects on which information must be required from farmers and holders of lands.

2d. The average rent per begah of land on which sugar-cane is cultivated is from three to three and a half rupees.

4th. With respect to the further increase which the culture of sugar-cane is capable of, and the degree of encouragement necessary to insure it, I am not competent to offer an opinion; but I think its general export, and consequent enhanced price, would induce the ryotts to cultivate it, if they generally held their grounds at a fixed rate, were certain of a permanent tenure, and possessed or could obtain on equitable terms the means of carrying on the culture, which is expensive; for although by the late regulations 12 per cent. only is allowed on the smallest sums, yet money is not to be obtained at that rate by ryots, as redress cannot be easily and speedily obtained by the lender, there being only the Dewanny Court at the capital of the district (often three days' journey) for the recovery of the most trivial sum; this must check credit, and impede cultivation and commerce. An adequate judicatory to ensure the recovery of trivial debts with ease to the poorer class of people, will both tend to promote and improve them, for the present current rate of interest will fall in consequence, payments will be made to the poor, and by them; whereas it now frequently happens, when a man is unable to pay the commission requisite to commence a suit, and quit his business, or keep a vakeel, what is justly owing to him is withheld from a conviction of his inability to pursue the necessary measures to obtain redress.

5th and 6th. The disadvantages attending the culture of sugar-cane are local, ground being in some places at a fixed rent, and in others according to the crop; in this neighbourhood it is generally at a fixed rate in rent; in free lands it is not always so.

8th. The Collector is most competent to answer this query; for my own part, I am of opinion, none of the waste land in so populous a district can be applicable to the culture of sugar-cane, which requires rich soil, adjoining to tanks or nullahs, that the canes may be watered.

9th. There are two sorts of sugar-cane: the brown called cajoolee which yields a very rich juice, and the yellow ook; the following account has reference to the latter, the first is not here in cultivation. The ground intended for the culture of sugar-cane, is well manured, and ploughed and harrowed more than for grain. A ripe cane is cut into several pieces, preserving two or three joints to each, and put into a small bed of rich mould and dung, and mustard-seed from whence the oil has been expressed: when each piece has put forth four or five shoots, and the field in which they are intended to grow to maturity is fully prepared, they are transplanted there; the ground is frequently turned over, weeded, and earth thrown round the canes as they grow

grow up: when the rains cease they are frequently watered, and the canes are bound round with their own leaves. From the Resident at Gollagore, 10 Feb. 1793.

10th. The rate of cultivation per begah is estimated at thirteen sicca rupees.

11th. From one begah about 13,000 canes are produced, worth from twenty-six to thirty rupees if sold in the haut for food: if the juice is extracted and boiled into goor, from twenty-seven to thirty two rupees. The labour of cutting, carrying to and attending the market, is equal to that of preparing the juice, which is about nine rupees per begah. The ryotts who culture the cane boil the juice to goor, which reduces it to a sixth. The advantage they would derive from this cultivation is in a great measure done away by being necessitated to solicit advances, by the issuing of which to ryotts many people gain a livelihood; advances are also generally given, both by the middling and opulent class of natives, for such a quantity of goor as they annually consume, and on payment interest on the amount advanced is allowed at the rate of six pice per rupee monthly, or S.Rs. 37 8 per cent. per annum. The interest of money borrowed is at the same rate, but the ryott prefers receiving advances to be repaid in goor, as that mode closes the concern, whereas if he has to obtain specie for it he may sell to a man against whom it may be necessary to commence a suit ere he can obtain payment; for the difficulty of compelling it, and the high rate of interest, occasions every one to withhold their debts as long as practicable.

12th and 13th. The profit from the foregoing appears to be from four to ten sicca rupees per begah, and it is supposed to be one of the most advantageous articles cultivated, except mulberry.

14th. One begah of canes yields as follows:

	Goor Cutcha maunds of 60 Sicca-weight.	Ditto Pucka Dowlea of 80 Sicca-weight.	Of 80 Sicca-weight. Maunds.	Seer.	
1st sort of ground	18	13½	4	20	
2d ditto	15	11	3	30	
3d ditto	12	9	3	0	This sort of ground is most generally in cultivation.
4th ditto	9	6	2	10	

15th. The process of preparing dowloa, which is only made here, is as follows. The inspissated cane juice is put into a large gomlah, which will contain a maund; the thinner part or molasses (called mhaat by the natives), drips from a small hole, perforated at the bottom, into a vessel to receive it; the surface of the gomlah is covered with an absorbent grass, which grows in tanks and jiels, called sealer, this is frequently changed, and as soon as the goor assumes the appearance of a white incrustation, it is scraped off as low down as dry, and put in another vessel: fresh sealer is applied to the remainder that is moist, and in ten or twelve days the maund of goor is prepared; three-fourths of a maund are molasses. Close wove baskets are by some used in lieu of gomlahs.

16th. The expenses attending one hundred maunds of dowloa are estimated at twenty-two Sicca rupees, exclusive of the first cost of gomlahs and baskets.

17th. There are no sugar-works, but some dowloa is made in this aurung. The Hindoos generally prepare it in their own houses, for the Dussarah and other festivals, when a considerable quantity is consumed by the middling and opulent class of people.

18th. The whole quantity cannot be estimated, as it is not made in public works; from the Collector's account of the cane cultivated, some estimate may be formed.

19th to 21st. Goor is sent to the gunges, to Chinsurah, &c., from whence it may be inferred the quantity exceeds the consumption, and is said to do so.

22d. The present rate of jaggry per maund of 60 sicca-weight is S.Rs. 2 4; of 80 sicca-weight is S.Rs. 3; the rate of dowloa therefore will be, of 60 sicca-weight S.Rs. 6; of 80 will be about S.Rs. 8. But dowloa is not to be met with in the public markets, and even in many villages not a chuttack is to be procured, as those persons who want it prepare it at home, for it is not a general article of diet; the poorer class can only afford goor and molasses.

23d. No

From the Resident at Gollagore, 10 Feb. 1793.

23d. No reduction, I apprehend, can be made on the present cost of sugar, from its being a permanent article of export; the continuance of peace, and extensive commerce, may better the condition of the lower class of people here, in which case more will be requisite for home consumption; and unless the cultivation keeps pace with the increased consumption and export, the price will naturally rise.

24th. Advancing to the ryotts, though it would tend in a greater degree to ensure the cultivation of the quantity wanted than any other mode, and render unnecessary the ryotts having recourse to the mahajans, as explained in answer to the 11th query, is liable to some objections from the detail and losses from outstanding balances, in consequence of bad crops. If it is adopted, the revenue must first be secured to the farmer or landholder, which would preclude any complaint on their part of the ryotts being independent of their authority; it would also prevent exactions on the ryotts, from whom, if poor, it is not unusual to take a salamy on a good crop of sugar-cane; and if they received advances from a factory, such exaction would be represented to the Collector, for which reason, landholders, talookdars, and others do not wish their ryotts of any denomination to receive advances from the Company, and frequently forbid them to do so. The cultivation, it is reasonable to suppose, will increase in consequence of the increased demand, in which case those engaged in the manufacture will extend their concerns, and more people will pursue this branch of commerce; the purchase in the moffusil will prevent natives carrying sugar on their own account to the foreign settlements, where there is a demand for it, and the goor may be bought up from the ryotts, or mahajans who have advanced for it, and manufactured it; but as pecific quantity cannot be insured by this mode, as there are not opulent people to enter into engagements and give satisfactory security for their being fulfilled.

25th. Molasses are a part of diet among the poorer classes in sweetmeats, &c. they are used by bricklayers; and lump jaggery is sometimes adulterated with earth.

26th. The refinement of sugar is not practised in this aurung; the country mode differs from the European. Dowloa being boiled to a thick syrup, the scum is taken off, and milk and water used as a spice to make it throw up the scum; when it is pure it is taken from the fire and poured into earthen vessels of a conical form inverted, which being exposed in the open air four days and nights, a small aperture at the bottom is opened to drain off the moisture, and the vessels are covered with sealah; in four or five days the sugar is scraped off, as low as may be perfectly dry, and sealah applied till the whole is so.

Gollagore, 10th February 1793. Rd. Waite Cox, Resident.

(From the Resident at Jungypore, 28th January 1793.)

From the Resident at Jungypore, 28 Jan. 1793.

Gentlemen:—I was duly honoured with your letter of the 12th of October, transmitting extract of a commercial general letter from the Honourable Court of Directors, under date the 25th April 1792.

In reply, I beg leave to inform you that there is no sugar manufactured within the limits of this factory. I have observed small plots of canes cultivated about eight coss from this place, to the westward of the Cossimbuzar river, but these are situated in a part of the country where silk is not cultivated, and I am informed that the produce is used in ghore or jaggree, no part thereof being converted into sugar, nor are the proprietors acquainted with the process.

The result of various inquiries within the circle of my business, induces me to believe that the soil throughout the Jungypore aurungs is by no means adapted to the growth of the sugar-cane, the ground being in general much too light and sandy, and the inhabitants are entirely ignorant of the mode of culture, and management of the plant; nor have I been able to gain any information on the heads of inquiry proposed by the Honourable Court of Directors, that can be deemed worthy of attention.

I am, &c.

Jungypore, 28th of January 1793. Mich. Atkinson, Resident.

(From

(From the Resident at Malda.)

From the Resident at Malda, 18 Feb. 1793.

Gentlemen:—I now lay before you the best information I have been able to procure on the subject of sugar, as directed by your letter of the 12th October last, which transmitted extract of a letter from the Honourable Court of Directors, stating the several points on which information was desired.

1st. No information to be procured hereon, the Collectors only are capable of ascertaining.

2d. From R., 1 8 to two rupees per begah is the average rent in the country about Buddaul, where a great deal of sugar-cane is grown. There is comparatively very little grown in the other parts of the tract of country where the purchases of this factory extend.

3d. Uncertain: it is supposed some increase has taken place.

4th. If buffaloes and hogs could be prevented from destroying the canes, and the ryotts were to receive something in advance to enable them to set forward in the cultivation, under such encouragement some increase would take place.

5th and 6th. The damage done to the sugar-canes by wild buffaloes, hogs, and jackals, is great: a disadvantage which seems to be general all over the country, and which extends in some degree to other crops. Too much rain in June and July is unfavourable, very high winds blowing down the canes, when they will not yield so much as standing canes. They are also liable to be attacked by a worm called the cotton-worm, which is destructive. As the cane is longer in arriving at perfection (eighteen months) than any other vegetable productions, many of which produce three and four crops within that period, the damage falls more heavy upon it; but as the profit derived to the ryott from the sugar-cane is much larger than upon almost any other production, it appears somewhat doubtful whether the ryott has any real cause to complain of disadvantages peculiar to the culture of sugar.

7th. Cannot tell.

8th. Throughout the parts adjacent to Buddaul the ryotts generally receive advances from sugar-makers for the quantity of cane-juice their land is supposed to be capable of yielding, which would not be the case in the event of ryotts cultivating waste land. The merchants, it is supposed, would not agree to advance without the certain prospect of a crop: this idea to the ryotts is very discouraging to their attempts upon waste land, which otherwise would, they say, be exerted.

9th. The land is first ploughed in the month of Cartic, length and breadth ways, and harrowed in like manner; four or five days after it is again ploughed and harrowed, as before, twice. In the month of Aghun the whole land is covered with fresh earth, again twice ploughed, and harrowed in different directions, and then manured with dung; fifteen or twenty days afterwards it is to be twice ploughed, as before; eight or ten days after which it is to be slightly manured with dung and the refuse of oil mixed together; then twice ploughed and harrowed in different directions, so that the clods of earth brought be well mixed together with the land; this preparation continues until the 20th or 25th of the month Pows. In the month of Maug it is to be twice ploughed and harrowed as above-mentioned, after which it is furrowed, in furrows half a cubit apart, in which the plants are to be set at about four fingers' distance from each other, when the furrows are filled up with the land that lay upon its ridges. The plants being thus set, the land is then harrowed twice in different directions: fifteen or twenty days afterwards the cane begins to grow, when the weeds which appear with it must be taken up; ten or twelve days after this the weeds will again appear: they must again be taken up, and the earth at the roots of the canes be removed, when all the plants which have grown will appear; ten or fifteen days afterwards the land is to be slightly manured, well cleared of weeds, and the earth that was removed again laid about the canes, after which ten or fifteen days it must be well weeded, and again twenty or twenty-five days afterwards: this mode of cultivation it is necessary to follow until the month of Joystee. The land

From the Resident at Malda, 18 Feb. 1793.

must be ploughed and manured between the rows of canes in the month of Assaar, after which, fifteen or twenty days, the canes are to be tied two or three together, with the leaves, the earth about them well cleaned, and the earth that was ploughed up laid about the roots of the canes something raised. In the month of Saubun, twenty or twenty-five days from the preceding operation, the canes must be again tied as before, and again ten or fifteen days afterwards, which done, nine or ten clumps are then to be tied together; this care to be taken until the end of the month of Saubun, after which, in the month of Bhaddur, they must be tied with the cane leaves as before, and again in Assen, when the cultivation is completed. In the month of Maug the canes are cut, when care must be taken to leave about three-quarters of a cubit of the head of the cane for plants: the remainder is pressed into jaggery.

10th. The expense of cultivating one begah is estimated at Rs. 8 8, whereof the particulars are:

Hire of ploughs, oxen, &c.	Rs. 1	12
Cooley hire	0	14
Ditto weeding, at eight times	4	0
Ditto cutting and bringing earth	0	8
Ditto tying canes at four times	1	0
Petty charges	0	6
Rupees	8	8

11th. The quantity of canes produced per begah is estimated at 8,000, their value thirteen rupees.

12th. When a ryott employs hired servants alone to cultivate his land, his profit is estimated at Rs. 1 8 per crop per begah: but few if any ryotts do pay for the whole labour bestowed on their land, but cultivate in part with the members of their own family: and insomuch as a ryott is able to employ them in cultivating the land, and looking after the canes, so much he gains: thus the profit he derives per begah per crop may be averaged at four to six rupees.

13th. Sugar-cane is as beneficial as mulberry, and much more so than any other vegetable production.

14th. About three maunds of sugar per crop.

15th. 1. Persons are sent to the ryotts to weigh the jaggery, and deposit it in mutkies or earthen vessels.

2. The jaggery is brought to the manufactory, and remains in mutkies one day.

3. The day following it is taken from mutkies, and poured into cloth bags, through which it is well strained; the solid jaggery remaining in the bags is put into gunny bags, and well pressed with bamboos, and so left; the next day this jaggery is taken out of the bags, well beaten, again pressed, and so left in the bags.

4. Two days after this, jaggery is taken to the quantity of twenty or twenty-five maunds, and put into the pan and boiled with about fifteen or twenty seers of water.

5. To each pan of jaggery is added about ten seers of lime-water and six seers of milk, after which the scum is taken off for the space of three hours.

6. The jaggery is then strained through cloths.

7. This strained jaggery is again put into the pan and boiled about an hour.

8. The sugar-boilers, when the jaggery is at a proper consistency, fill the coondahs (earthen pots), which is done at three times, requiring three boilers.

9. The days following the coondahs are placed upon a scaffolding, in a building prepared for that purpose.

10. Three or four days afterwards a particular sort of grass-weed, which grows by the sides of rivers, is placed on the top of the sugar in the coondahs, to purify it, the hole at the bottom of the coondah is opened, and a mutkie placed beneath to receive the oozing jaggery.

11. Fifteen days after, some sugar will be clean, and about one maund and a half of jaggery will have oozed from the bottom.

12. As

From the Resident at Malda, 18 Feb. 1793.

12. As much sugar as is purified at the top of the coondahs is cut out from them, usually about ten or twelve seers at a time, and placed to dry.

13. One day afterwards the grass-weed is again put upon the sugar remaining in the coondahs.

14. After ten or twelve days the coondah is again taken, and as much sugar cut out from the top as may be clear, which is generally from fifteen to sixteen seers.

15. Should there, after this, be much sugar remaining in the coondahs, the grass-weed is again put on for about eight days.

16. Then all the remaining sugar is taken out, of which, upon an average, there will be two seers of inferior red sugar, which is separately deposited, and fetches a less price.

17. The jaggery which has oozed from the bottoms of the coondas is put into the pans, boiled, and made into lump jaggery.

18. This jaggery is mixed with the lump jaggery, as received from the ryotts, and made into sugar.

19. This sort of sugar is of an inferior quality.

20. According to this mode of preparation, about ten seers of sugar is produced from one maund of jaggery.

21. One maund of jaggery, exclusive of the sugar, yields, upon an average, twenty four seers of molasses and six seers of dirt.

16th. The estimated charges attendant upon making sugar, with the particulars of expense noted, calculated on one maund of sugar are, *viz.*

		Rs	A.	P.
1	proportion of monthly wages to sircars and peons, weighing of jaggery, &c.	0	3	0
1	ditto bringing do	0	1	6
1	ditto sugar-boilers	0	1	6
1	ditto cooley hire	0	3	6
1	ditto earthen pans, mutkies, &c	0	2	6
1	ditto cloth and gunny-bags	0	0	6
1	ditto grass for burning	0	4	9
1	ditto bamboos, hemp, twine, &c	0	0	9
1	ditto milk, lime, &c	0	1	6
1	ditto grass-weed	0	0	9
1	ditto sundries, iron implements, &c.	0	0	6
1	ditto charges repairing pans	0	1	3
1	ditto repairs of buildings	0	1	0
13		Rupees	1	7 0

17th. There are many sugar-works established, and they are held by natives.

18th. A great quantity of sugar is made in the district about Buddaul, which is situated chiefly in Dinagepore, estimated, at a moderate computation, at 80,000 maunds per annum; what is manufactured besides, in all the parts where the business of this factory extends, may be computed at 1,200 maunds. The sorts are two: *phool*, fine; and *rashee*, coarse.

19th. Exceeds greatly.

21st. The internal consumption is small; the surplus is purchased by pykars in the aurung, who carry it for sale to Dacca, Moorshedabad, and Calcutta; some of the manufacturers also export their own merchandize themselves to those marts.

22d. The present bazar rate of its cost is S.Rs. 7 per maund of 72 sicca-weight, which at sicca-weight 80, is S.Rs. 7 12 6 per maund.

23d. Towards the end of last year, in consequence of a great demand for sugar to ship for Europe, the price of this article rose to twelve and thirteen rupees per maund: this demand was sudden and unexpected; it may be supposed that the cultivation of sugar has since been extended, but hardly in any proportion to so heavy a demand. Should sugar, therefore, become an extenive and permanent article of import into Europe, the price of sugar at this time stated may be expected to rise rather than fall, at least during a certain period, until the cultivation of sugar-lands is sufficiently extended.

24th. To

From the Resident at Malwa. 18 Feb. 1793.

24th. To purchase in the mofussil through private individuals, or in the same manner through the Company's public Commercial Agent, would appear to be a more simple and eligible mode than by making advances to ryotts. It is alleged by sugar-makers, the unavoidable balances arising from advances issued to ryotts for their cane-juice are very heavy, to say little of bad debts, arising often from failure of crop, but more frequently from roguery, exclusive of ryotts absconding, and from mortality; in which latter event, although the balance is carried to the debit of surviving relations, yet it oftentimes remains irrecoverable. If these assertions be well-grounded, and founded upon experience (as appears to be the case), and persons who have for a series of years been engaged in the business find such heavy disadvantages, in a confined circle, too, compared to what the Company would be engaged in, and where they themselves are personally interested, and consequently more anxious to attend to the well ordering of their concerns, than the Company could expect to find any natives to act for them merely as agents; besides the expense of erecting and supporting sugar manufactories, which the system of advancing to ryotts would require: these considerations seem to weigh much in favour of an outright purchase of sugar, in preference to the other mode.

25th. The dregs that arise in the process of making sugar are usually sold at about twelve annas per maund, and used in forming the cement for buildings, and in mixing up with tobacco. A manufacturer of sugar has asserted, the amount of sales of molasses nearly pays the charges of manufacturing his sugar.

26th. The refinement is not practised, that I hear of, in any degree at all worthy of notice.

I have, &c.

Malda, 18th February 1793. G. Udney, Resident.

(From the Agent at Radnagore, 9th January 1793.)

From the Agent at Radnagore. 9 Jan. 1793.

Gentlemen:—I have been favoured with your commands of the 12th October, transmitting extract of a letter from the Honourable Court of Directors on the subject of sugar; answers to which I now forward, according to the best of my knowledge: and I must retract an error in my letter of the 14th January 1792, supposing a possibility of having two crops per annum; which, from reading Mr. Cazeau, and a more minute investigation of the subject, I am now convinced is, under any circumstances, impossible.

I am, &c.

Radnagore, 9th January 1793. P. Touchet, Agent.

1st. From 7,000 to 10,000 begas.

2d. Three sicca rupees.

3d. An increase seems to have taken place this year, but how far I cannot say; till the planting of 1792, I believe, the cultivation of sugar-cane was upon the decline.

4th. It is certainly capable of very great increase, but to what amount I can form little idea; by assisting the ryotts with money, I suppose at least five times the quantity might be planted. The increased demand will of course occasion an increase of cultivation; but if the ryotts are left to their own means, this increase will be very gradual indeed.

5th. None.

6th. None that I know of.

7th. This it is impossible for me even to guess at.

8th. Certainly, all their lands that will answer, and that are not occupied by mulberry, if they are supplied with plants, and money advanced: water is necessary, and most of the land in this district, fit for sugar-cane, either has this advantage or may have it.

9th. They take great pains in making the ground they intend for sugar-cane as porous as possible; they make a rule of never planting the same ground with cane two successive years; they lay the plants horizontally. The mode

of

of planting is stated in my letter of the 14th January; but I omitted to mention a custom they have of putting with the plants a little of the sursoon-seed, from which the oil has been expressed. From the Resident at Radnagore, 9 Jan. 1793

10th. To the ryotts themselves, if they have the plants and sursoon, the expense is nothing; another person might pay every thing for about twelve or fifteen sicca rupees.

11th. I shall cut a bega, count and report the number: I attempted to do it as the cane stood, but they were so wrapped up with leaves, and seemed in such confusion, I could not. Their value I believe to be from twenty-five to thirty-five rupees, reckoning the jaggry at S.Rs. 1 12 per maund of 80 sicca-weight.

12th. At the above rate, the average profit to the ryott is at least fifteen sicca rupees per bega of good cane.

13th. For this I must refer to my comparative statement of the 7th August.

14th. From four to five maunds of eighty sicca-weight: boiling it first into jaggry, the white cane of this country, I believe, seldom yields more. By boiling the sugar direct from the cane, and using lime-water and ashes instead of milk, I have cause to suppose it would yield considerably more, and have a better grain; if so, by having a few people properly instructed, buying the cane of a village, having the sugar-house in the midst of it at the usual place, taking the sugar only, and letting the ryotts have the syrup for their own consumption and to sell in the hauts, and allowing them the tops for plants, I am convinced that in the course of two or three seasons the practice of boiling at once into sugar, if really advantageous, would be universally adopted.

15th. For this I must refer to my letter of the 14th January 1792.

16th. The jaggry of the poorée or white cane they put into baskets to drain, till it is reduced to half, which only is boiled; of the cajoolah, or purple cane, they boil all the jaggry. For the expenses attending the process, I beg to refer to the accompanying statements, Nos. 1 and 2.

17th. None in this aurung that I know of, except the sheds of the merchants and sugar-boilers who agreed to make sugar for the Company, may be called works.

18th. The best sugar of this aurung is boiled twice, the worst only once. After the jaggry has been long kept, it will not make good sugar; and, to conduct the business properly, the boiling for the year ought to be finished by the 31st July. I will endeavour to ascertain, as soon as possible, the quantity of sugar produced, and its proportions; that of jaggry is stated, as near as I can guess it, in my letter of the 14th January 1792.

19th and 20th. The jaggry always exceeded; sugar was not made till required for the Company, except for the purpose of making sugar-candy.

21st. The surplus used to be disposed of to the Calcutta merchants.

22d. The present current rate per maund of eighty sicca-weight is S.Rs. 7 12 for the first sort, 7 4 the second, and 6 12 for the third; but it is not to be bought without advancing for.

23d. I do not think the price of sugar will ever be less while the demand continues. Should it become a permanent article of import into Europe, it appears to me that the Company's agents might get it cheaper; better, to a greater certainty, and with less risque of balances, by agreeing with the principal ryotts to cultivate so much cane on account of the Company, and to receive so much per bega for the produce.

24th. No quantity of sugar can, in my opinion, be obtained, to a certainty, without advancing; but it is very difficult to find individuals of sufficient responsibility who are willing to engage, and who could perform such engagements. The most eligible mode would be to make advances to the ryotts for the jaggry through the Company's public commercial Agents, who might then easily agree with the sugar-boilers and others to receive the jaggry, and

From the Resident at Radnagore, 9 Jan. 1793.

deliver the sugar at fixed prices, according to its quality. Purchases for ready money in Calcutta would be very uncertain; and the only mode that seems to come into a competition for preference to advancing to the ryotts, is that of advances by public contract upon specific musters; but as provision of the rest of the investment seems to be conducted to the satisfaction of our employers by agency, it is fair to conclude, that of sugar would, at least after a little more experience, be equally so.

25th. The molasses turn to account, and sell from about thirty to forty per cent. less than the jaggree. Could the mode of making the sugar at once from the cane-juice be adopted, the molasses would increase in value, and might be made to answer every purpose for which jaggree, in its present state, is now used by the natives.

26th. The second boiling may be called a refining, and this they again refine to make sugar-candy, and little balls of white-sugar, called oala, which the principal natives use on particular occasions. The proof of the boiling is taken exactly in the European manner, between the finger and thumb. In refining they never use any thing but milk and water; the expense is not very considerable, being only the cost of the pots and milk, and the labour of the workmen. Instead of putting the sugar-candy pots into stoves, as they do in Europe, they cover the tops with paper, and put paddy chaff or boosee all round for three days; they then take out the pots, and put clay all round the outside, pouring out the syrup gently; and in about ten days the sugar-candy is ready. The expense of refining two maunds of the best doobarra sugar, to make one maund of sugar-candy, I am informed is as follows:

Wood	4 annas
Milk	2
Pot	1
Labour	5
	— 12 annas.

Two and a half maunds of best doobarra sugar will make two maunds of oolah, at nearly the following expense:

Wood	Rs. 0	12
Milk	0	3
Labour	2	0
	— 2	15

Radnagore, 9th January 1793. P. Touchet, Agent.

No. 1. Estimate of the Expense attending one bega of Sugar-cane, and boiling the same into jaggree.

Rent		S.Rs.	3	0 0
Plants			3	0 0
Preparing and planting ditto	22 coolies.			
Weeding	5			
Supplying earth to the plants	6			
Watering the cane	15			
Tying the leaves round ditto	24			
	— 72 at 12 per rupee		6	0 0
Ploughing, eight days			0	12 0
Cutting the cane	20			
Grinding the cane and boiling the juice into jaggree	54			
	— 74 at 12 per rupee		6	2 8
The sursoon seed after the oil is extracted, a little of which they put with each plant			2	0 0
Straw for fuel with the dried canes			1	0 0
Jars and pots			1	0 0
			22	14 8
Deduct the value of the plants			4	14 8
		S.Rs.	18	0 0

No. 2. Estimate

No. 2. ESTIMATE of the Expense of boiling nineteen maunds of eighty sicca-weight of jaggree into Sugar.

From the Resident at Radnagore 9 Jan. 1793.

	From the white cane or pooree ook. S.Rs. A. P.		From the cajoola ook or purple cane. S.Rs. A. P.
Pots and Jars	1 0 0	.....	1 8 0
Wood	2 4 0	.....	3 0 0
Milk	1 0 0	.....	1 8 0
Boiling	0 10 0	.....	1 0 0
Bringing and putting on the grass and scraping the sugar	1 0 0	.....	1 1 0
Drying the sugar	0 8 0	.....	0 6
	6 6 0	.....	8 9 6

(From the Resident at Santipore, 7th December 1792.)

From the Resident at Santipore, 7 Dec. 1792.

Gentlemen:—I have had the honour to receive your letter of the 5th ultimo desiring me to take measures for receiving from the districts within the circle of my business, a quantity of sugar to be exported in the shipping season of 1794-5, and informing me that the Governor-General in Council had been pleased to direct that the provision should be made by means of engagements to be entered into with native dealers or boilers of sugar, for such quantities as they may respectively be willing to engage for.

In consequence of your directions I have made known to the sugar-boilers in this neighbourhood, the opportunity they now have of contracting for the provision of sugar; but hitherto they have all declined engaging for the supply of any quantity from the expected crops of 1794, and at present I do not see any prospect of being able to settle with them in the manner directed in your letter.

I hardly expect that the sugar-boilers in this neighbourhood would now engage for the delivery of sugar in 1794, none of them having yet contracted with me for any for the year 1793, although I have frequently proposed to them to do so; but their answer has regularly been, that they cannot make any settlement for sugar until the average price of goor for the season is ascertained, and this will not be known until the crop has been cut down. Besides, they are in general in such indigent circumstances, that even if they were inclined to contract, I do not think it would be safe to advance them any large sums, very few of them being able to offer any kind of responsible security, and in case of a bad season they would of necessity fail in their deliveries and probably be unable to pay back the money previously issued to them.

Contracting with native dealers would be by far the least troublesome mode of provision, and my sole motive for proposing in my letter of the 18th August last to advance to ryotts for the produce of the crops on the ground, was from seeing that dependance could not be placed in boilers of sugar for any considerable quantity; and had not these measures been adopted, no certain provision from this factory for the year 1793 could have been secured even at this time.

Advancing to the cultivators of the cane, appears to me at present the most likely mode of securing a large provision of sugar for the year 1794, and this may be done either by commencing to advance in January to assist the ryott in preparing his ground, and giving a further advance as his crop grows up, or by delaying to issue any money until the month of June, and then advancing to the cultivators to engage the produce of the crops on the ground. The first mode would probably have a more immediate effect in increasing the cultivation of sugar-cane than any other that can be adopted; but it is objectionable on account of the risk of balances being incurred, which might be very heavy in the event of a failure of the crop. The other appears to be the safest way of proceeding, as advances need not be given until the crops are pretty strong, and the risk of balances being incurred would of course be less; but the same encouragement is not held out for extending the cultivation.

I conceive

From the Resident at Santipore, 7 Dec. 1792.

I conceive that the adoption of either mode would be very beneficial to the ryotts, by assisting them with money to cultivate their lands, for which they are now obliged to have recourse to Mehajuns, who exact very high interest from them; the usual rate for money lent being half an anna per each rupee per month, which is equal to about 37½ per cent. per annum; but in other dealings, when grain is lent either for present subsistence or for seed, or where money is advanced to be paid back in grain, the terms are more unfavourable to the borrower. I enclose for your inspection, copies of three bonds, by which you will see the mode in which money and other transactions are carried on between natives. I have taken the liberty to mention these circumstances, as they necessarily come to the knowledge of every person stationed in the interior part of the country.

These bonds are not copied here.

If native dealers would now contract for the supply of a quantity of sugar in 1794, it certainly may be presumed that they would for their own sakes make the necessary advances to the cultivators to enable them to ensure the performance of their engagements. But it is also to be apprehended, that they would not forego the advantage of high interest which all natives make who advance money on their own account to ryotts; but that they might become Mehajuns to the sugar-cane ryotts, lending them money to carry on the cultivation at the usual interest of 37½ per cent per annum, and having the crops mortgaged to them for the amount.

I shall continue to use my endeavours to make engagements with native dealers for the year 1794, according to your orders; and shall inform you shortly whether it is probable that they will contract or not.

I have, &c.

Santipoor, 7th December 1792. E. Fletcher, Resident.

(From the Resident at Santipoor, 31st December 1792.)

From the Resident at Santipore, 31 Dec. 1792.

Gentlemen:—I have now the honour to transmit you my replies to the questions contained in the extract of the Honourable Court of Directors' letter that came enclosed to me in your letter of the 12th October last.

I am, &c.

Santipoor, 31st December 1792. E. Fletcher, Resident.

1st. I have no means of procuring the information required by this question. The Collector of the district, I dare say, can ascertain from the farmers the quantity of land cultivated with sugar-cane.

2d. Answered in my reply to the sixth query of the Board of Trade's letter of the 3d August 1792.

3d. This question I conceive can only be answered with any degree of accuracy by the Collector of the district.

4th. I do not imagine that any individual can say what further increase the cultivation of sugar-cane is capable of undergoing. I conceive that it may be greatly extended, and that it will be extended if the demand for sugar continues to increase.

5th. Answered in my reply to the sixth query of the Board of Trade's letter of the 3d August 1792.

6th. Land on which sugar-cane is planted is generally assessed higher than other lands.

7th and 8th. I am not competent to answer these questions, nor have I any means of coming at the information desired.

9th. Answered in my reply to the fifth query of the Board of Trade's letter of the 3d August 1792.

10th. The following is an estimate of the expense of cultivating a begah:

	Rs.	An.
Eight ploughs	1	0
Plants	3	0
Manure	1	8
Planting	0	6
Carried forward	5	14

From the Resident at Santipore, 31 Dec. 1792.

	Rs.	As.
Brought forward...	5	14
Cutting the plants.....	0	4
Moulding, weeding, and tying the cane	2	12
Revenue	2	4
S.Rs.	11	2

11th. A bigah is estimated to produce from 11,000 to 12,000 canes.

The juice of these canes, when boiled down into goor, in general will yield from ten to fifteen maunds, which may be valued at about twenty-four rupees.

12th. Estimating the quantity of goor produced from a bigah to be worth twenty-four rupees, and that there will remain plants for another crop, valued at four rupees, and deducting from these the expense of cultivation, rent, and expense of preparing the goor from the cane, there should remain to the ryott a profit of about six rupees per bigah.

13th. The profit by cultivating sugar-cane is considered to be about equal to that derived from the mulberry, and double what is acquired by growing rice.

14th. From three to four maunds of sugar.

15th. Answered in my reply to the fourth query of the Board of Trade's letter of the 3d August 1792.

16th. The expense of a maund is estimated as follows:

Pots and other implements.....S.Rs.	0	4	0
Fire-wood	0	1	6
Milk	0	0	6
Sugar-boilers	0	8	0
Coolies	0	3	0
S.Rs.	1	1	0

17th. There is an established sugar-work at Sooksaugur, the property of Mr. Barretto, and I believe there are some others lower down the river belonging to Europeans.

18th. I have not been able to procure sufficient information to enable me to answer this question.

19th. I have always understood that the quantity produced in the district exceeds the consumption.

20th. No answer required.

21st. I have not been able to ascertain in what quantity the produce exceeds the consumption. The surplus, whatever it may be, is either exported to Calcutta, or some of the foreign settlements above Calcutta, according to the demand.

22d. At present there is hardly any sugar in the market here, the new canes not being yet cut; and what there is, is selling in small quantities by retail, at from ten to twelve sicca rupees per maund of eighty sicca-weight.

23d. The average price of last season may be taken at from eight to nine sicca rupees per maund of eighty sicca-weight; but it is impossible to say what reduction may be effected in the cost of an article, which, like every thing else, rises or falls in value according to the quantity in the market and the demand of purchasers.

24th. I have not had sufficient experience to answer this question with confidence. Advancing to ryotts would probably be the most effectual way of extending the cultivation, and ought to be the cheapest mode of procuring sugar. If I was engaged as an individual in this branch of commerce, I should make trial of giving advances to ryotts. Purchasing the artice in Calcutta I should suppose to be the most expensive way.

25th. The molasses are distilled into rum, used by the natives for making

From the Resident at Santipore. 3 Dec. 1792.

sweet cakes, and otherwise in food, and are generally mixed with mortar to strengthen the cement.

26th. Answered in my reply to 5th query of the Board of Trade's letter of the 3d August 1792.

Santipore, 31st December 1792. E. FLETCHER, Resident.

(From the Resident at Soonamooky, 14th February 1793.)

From the Resident at Soonamooky. 14 Feb. 1792.

Gentlemen:—I have the honour of receiving your letter of the 12th October last, and delayed my answers to the queries from the Court of Directors until I could, from actual experiment, report correctly; but as the canes in Beerbhoom are not yet cut down, and as it will be some time before they are in a state for affording the information I look for, that I may be in time for the ships of this season, I have conceived it better to give you such insight immediately into the culture and manufacture as I have been able to collect, and shall hereafter report the actual result of the experiments.

1st. Having no records to aid my judgment, I cannot give a correct answer to the 1st query; yet I should conceive, that in the range of the Soonamooky aurungs there are not less than 30,000 bigahs of sugar-lands in cultivation; but it is very necessary to qualify this assertion, by observing, that the canes in the low lands do not produce a juice sufficiently strong for manufacturing into sugar, and that other agents bordered upon the aurungs make advances in it, by which means the whole quantity that might be procured does not pass through my hands.

2d. The average rent is about three rupees per begah.

3d. I should rather conceive that no increase had taken place within these few years past, for, until very lately, sugar was not an article in request, therefore the goor was exported, and the ryott found some difficulty in procuring a sale; besides, the high interest paid to the shroffs for money lent him to discharge the instalments of his revenue, was a great bar to an increased culture, because the canes are a very late crop, and paddy being earlier, the revenue was much more easily discharged.

4th to 6th. From what I have said in reply to the third question, two of the causes being removed (*viz.* the want of a market and the interest of money lowered), it is to be presumed that the cultivation will be extended; but whatever may be the extension, must, I apprehend, be principally effected by a decided assistance from Government. The ryotts possess no capital, and therefore are unable to purchase a sufficiency of manure to prepare their grounds; and as on the lands on which canes are grown, cotton equally thrives (which does not require to be so much manured), it is rather to be supposed that the cultivator will look to two crops in one year, than to two in double the period, unless in the interim he is supplied with means of subsistence, to look forward to the greater profit expected from the sugar-cane. The great extent of zemindarries appears to me a disadvantage to any increase of culture, because they do not attend to the advantage which a future period might bring them, but rather grasp at the moment, by which their ryotts, so far from benefiting by their industry, are only preparing themselves with greater ability to discharge a future accumulated demand. The case, it is presumed, would be otherwise, if the zemindarries were divided into small talooks, in the same manner as the great estates in Europe are let out on long leases to farmers, which would encourage the industry of the possessors, and in no way infringe on the right to the soil, because the land would acknowledge a superior in the lease from the zemindar, and ultimately again revert to him; but I am free to say, that, under the farming from year to year, there is little or no chance of an increased culture, without the assistance of Government directly to the ryott.

7th. and 8th. Is unknown to me; and the 4th reply answers the 8th.

9th to the 16th. The information required from the 9th to the 16th, both inclusive, has been already given in my letters of the 22d July and 20th August 1792; but as the calculations then forwarded were not founded on actual experiment, I shall correct whatever may appear erroneous when I am better informed.

17th. The

From the Resident at Soonamooky, 14 Feb. 1792.

17th. The sugar-works in the district, all held by natives, until Mr. Paterson established himself near this, and he is the only European I know of. The works of the natives are very small, and only calculated for the quantity formerly prepared: but latterly I observe them increasing, and many of them considerable buildings.

18th to 21st. I should conceive that the quantity of sugar formerly made was not above 30,000 maunds of every description; it exceeded the consumption of the districts, and was exported part to Moorshedabad and part to Calcutta. The lower class of natives cannot themselves afford the expense, and it is only amongst the opulent that sugar is used, except in the holidays, when all ranks have sweetmeats, which are however principally made from the refuse and strainings, as described in my letter of the 22d July.

22d and 23d. The present rate of its cost is difficult to say, because there is yet no sugar on sale, or indeed the crops gathered in; but I believe, for the medium quality, five Sicca rupees per maund of 60 sicca-weight will be nearly the price, or S.Rs. 6 10 13 of 80 sicca-weight; however, I do not mean to be understood that such is actually the price, nor am I of opinion that any reduction will take place, but on the contrary, I rather think that sugar will rise in value in the aurungs, until the market is supplied equal to the demand.

24th. In reply to the 24th query, I have not a hesitation in saying, that advances to the ryots would not only be the most eligible, but also the cheapest, as well as the most certain plan of procuring sugar for the Company. I do not mean to preclude advances to boilers altogether, because they have certainly as fair an opportunity of engaging for the canes on the ground as the Company's agent; and therefore, from a knowledge of their having made advances to the cultivator, I would also recommend contracting with them. But unless their advances having been made was satisfactorily proved to me, I would on no account engage with them, for I have experienced already that many who have received the Company's money for 1793, have not issued an anna for the crops now about to be cut, and that they depend upon the market for fulfilling their engagements; besides, a choice of people, and responsible security, are not to be had in the aurungs, as may be done in large cities; and it is better to trust a little money in the hands of many, who have long lived on the same spot, and where the crop is also a security, than to adventure considerable sums in the hands of men, who have not ostensibly a property adequate to the undertaking.

25th and 26th. I refer again to my letters of the 22d July and 20th August for the information required by the 25th question; and in regard to the 26th, as I am not acquainted with the European mode of refining, and have not seen the process practised by the natives, I cannot answer it at present, but shall do so when my experiments have been made.

In replying to these questions from the Honourable Court of Directors, I have been led into giving an opinion, which is directly in opposition to the orders conveyed to me in your letter; but I trust, Gentlemen, that you will do me the honour to consider, that I have felt myself called upon to afford such information as was in my power, as well as to offer an opinion when it was asked, and that I have not stept forward of my own accord to offer a plan for the provision of sugar after the determination of Government had been conveyed to me. It is true that my duty requires I should carry your orders into effect, and I have hitherto been endeavouring to make engagements accordingly; but I have not any reason to say that the people are willing to engage, or that when they have been, the security was such as appeared responsible. If, on consideration of what I have now offered to your notice, an alteration from the original plan is thought advisable, I beg the favour of your orders as early as possible, for there is still time to do a great deal towards increasing the culture. Although I have declined answering the seventh question from the Court of Directors, yet it is necessary I should observe, that there are great tracts of waste lands, much of which might be brought into cultivation by digging tanks, and obtaining inhabitants; the first is easily done, and the latter I should suppose would come of themselves, when the assistance of Government was held forth, and the ryotts found themselves fostered and protected by its immediate servants. It may be said

that

From the Resident at Soonamooky, 14 Sept. 1793.

that the inhabitants from one district coming into another, would be only enriching the one to the impoverishment of the other; but it is fair to conceive, that the neighbouring districts would not be the only places to which a knowledge of what was doing would extend, and that ultimately the encouragement might be known beyond the Company's provinces. But this is a speculation not altogether connected with the information required from me, I therefore quit it in apologizing for its intrusion.

I am, &c.

Soorool, 14th February 1793. J. CHEAP, Resident.

(From the Resident at Patna, 4th September 1793.)

From the Resident at Patna, 4 Sept. 1793.

Gentlemen :—I have the honour to enclose you a reply to the questions put by the Honourable Court of Directors in their letter of the 25th April 1792, regarding the process of making sugar.

It is necessary to premise, that my inquiries have been limited to that part of the province of Behar called Behar Proper; not only because my purchases have been principally confined to that division, but because the sugars produced in that division are considered by the natives superior in their qualities to the sugars produced in any other division of the province of Behar. In Chuprah, Corrah, and Tirhoot the cane is cultivated, but the sugars produced there are not supposed of equal quality with the sugars of Behar.

I must further previously beg to remark, that where the object of inquiry, as in the present instance, is in its nature so varying, and from contingences so precarious, and where the parties to whom application must be made for information are suspicious of the motives of inquiry, a very exact statement can scarcely be expected; therefore I have no doubt but a proper allowance will be made for the difficulties under which information has been procured, if it should not appear so extensive and accurate as our Honourable Employers may expect.

There is another observation which it is necessary to make, that I have estimated the prices of sugar at the present rates, which, from the very great demand for sugar, have been raised much above the prices of preceding years, when sugar did not make a part of the Company's investment.

Answer 1st. In Behar Proper the number of begas in cultivation is estimated at twelve thousand.

2d. The rent is regulated by the nature of the soil; in some pergunnahs from three and four rupees the bega to eight rupees the bega, and in other districts a rupee and a half to five rupees the bega.

3d. None that I can hear of, but may be expected on account of the great demand for sugar.

4th. The great demand for sugars is, and must operate while it continues, as a real and the best encouragement for increase of the cultivation of the sugar-cane.

5th and 6th. I have never been able to learn that the cultivation labours under any disadvantage.

7th. Not ascertained.

8th. It is probable that the waste lands will be brought into cultivation as the demand for sugar increases.

9th. In January the ryotts begin to prepare the lands newly brought into cultivation by digging them with hand-hoes. In April they begin, and continue ploughing the lands till October, to the number of fifty and sixty times. The cane is planted in November, and ready to cut in the ensuing October and November. During the time of the growth of the cane the plantations are weeded about ten or fifteen times; some new lands are watered when they begin to dig them, others are not. The cane is not planted two years successively upon the same lands; but the best lands are selected for the cultivation of the cane. The expense and labour of cultivation of the cane is so very great, that every ryott is not capable of carrying on the cultivation. A

ryott

ryott may be supposed to cultivate one or two begas; but it requires a very substantial ryott to cultivate four or five begas. From the Resident at Patna, 4 Sept. 1793.

10th. Estimated at about seventeen rupees per bega.

11th. The quantity of canes I could not ascertain, as the plantations are liable to accident and damage, particularly from the wild hog; but a bega of the best cane is supposed to yield about thirty maunds of juice, which formerly were sold for forty rupees, but on the increasing demand they are sold for more.

12th and 13th. This depends so much upon contingencies, that it is difficult to be ascertained; but it may be estimated at fifteen rupees per annum: no other article of vegetable production yielding such profit to the cultivator.

14th. The produce of cheenee per bega may be estimated at about seven maunds per annum.

15th. The raub, or juice, after it has been pressed out from the cane, is brought to a consistence by fire, put into bags, and pressed down by heavy weights, and kept so some time (the purity of the sugar depending upon the continuation of the pressure). During this operation a liquid drops from the bags called choah, which is preserved in pans, and sold to the distillers for spirits. The contents of the bags, when purified from the choah, is called shukkur; put into a vessel, and kneaded and worked up with a proportionable quantity of milk, then boiled and carefully scummed; when it has obtained by the heat a proper degree of consistence, or rather ropiness, it is then strained through a cloth into another vessel; from whence it is taken in certain quantities (proportionable to the extent of the manufacture), and brought to a greater degree of consistence over the fire. It is then put into earthen vessels with a small hole at the bottom, through which the molasses drains off into a vessel beneath; what remains in the earthen vessel above is covered with a cloth, on which cloth is put a proportionable quantity of sawaur (a creeper growing in marshes), which by its moisture passing downward through the vessel purifies the sugar. As it purifies by the operation of the sawaur the sugar is taken off from the surface, and called cheenee, and dried in the sun. When sufficiently dried, it is spread out upon a platform, pounded, and ground down to powder by the feet to the requisite degree of fineness, dried and put in bags for dispatch.

16th. The amount is about two rupees the maund. I have not the particulars with me, but they shall be sent on my return to Patna.

17th. This year some native merchants are making sugar at two or three places, but not in any very large quantities. As I am informed, two or three European gentlemen are beginning a manufacture at Patna, and some gentlemen are engaged in establishing manufactures of sugar in Arrah and Tirhoot.

18th. Goor and shuckar are generally made throughout Behar. I have not been able to procure the least satisfactory information regarding the quantity produced.

Cheenee or sugar is not made in Behar, therefore I can give no opinion of the different qualities.

19th to 21st. Not having it in my power to ascertain the quantity of goor and shuckar produced, I can only observe, that goor and shuckar are a necessary of life, and sufficiently abundant for the internal consumption, and even to admit of an exportation of the excess to Bengal; but what that excess may be I can by no means learn.

22d. The best goor is now sold, on an average, at S.Rs. 2 2 per maund of eighty sicca-weight. The inferior sort, from which a spirit is distilled, and which is used with tobacco, is about S.Rs. 1 4 per maund of eighty sicca-weight. The syrup called raub is sold at about S.Rs. 2 12 per maund of eighty sicca-weight; and shuckar at about S.Rs. 3 4 per maund of eighty sicca-weight.

The natives make little or no cheenee or sugar; but what they do make is very bad, and sells for about nine rupees per maund of eighty sicca-weight.

23d. The reply to this question must, I conceive, depend upon the amount

From the Resident at Patna, 4 Sept. 1793.

of the orders for sugars for home, which must be either increasing or fixed on an average, or decreasing.

If the orders increase annually, I see no means of reducing the cost, as the article must rise in value proportionable to the extra demand.

If the amount of the orders could be fixed upon an average, there would be amongst the variety of merchants and manufacturers engaged in sugars a competition to procure the means of supplying that amount: under such a competition I see no means of reducing the cost.

If the amount of the order of the current year should fall short of the order of the preceding year, the cost of the current year might be lower; but the provision on hand would I think check the cultivation of the ensuing year, and a scarcity must be the consequence of the check in the cultivation; the cost would then rise again in proportion to that scarcity.

24th. Sugars, as I have remarked before, are not generally made in Behar, and therefore I have been under the necessity of establishing a sugar manufactory at Patna; which is carried on by purchasing raub or syrup, by agents sent into the districts.

By this mode a superintendance of the process is settled, and a certainty of having the best sugars the soil can produce; and as the sugars have no other charges upon them than the expenses of the manufacture, I should suppose they must be cheaper provided than if purchased from individuals, who in the sale would attend to their own profit.

The mode of sending agents to purchase the syrup I prefer to making advances to the ryotts, as it prevents the balances which are in general unavoidable when made to the ryotts for cultivation.

25th. The scum arising from the boiling of the sugar is of no use and thrown away; but the choah and molasses are used for coarse sweetmeats, for tobacco, and for distilleries, and sold from twelve to sixteen annas per maund.

26th. Some Europeans have formerly refined sugar at Patna for the use of Europeans, but the natives do not use it, and therefore it is not refined by them; as far as I can learn, the expense is about a rupee in excess above the cost of making cheenee or sugar.

Regarding the sugars produced in the divisions of Tirhoot, Chuprah, and Arrah, I have as yet been able to procure no particular information respecting the cultivation there, not having extended my purchases to those districts till lately, when I sent people to purchase at Chuprah; but speaking generally, I have reason to believe there is very little variation from the modes established in Behar Proper: but as I propose only purchasing the syrup, and manufacturing the sugar, the process of the manufacture has been stated above. I have, &c.

Calcutta, 4th September 1793. E. E. Pote, Resident.

(From the Resident at Chittagong, 18th September 1793.)

From the Resident at Chittagong, 18 Sept. 1793.

Gentlemen:—I have been duly honoured with your commands of the 12th October, covering an extract of a letter from the Court of Directors, bearing date the 25th April 1792, on the subject of sugar.

In reply thereto, I beg leave to acquaint you, that this province produces very little sugar-cane; and that of so inferior a kind, that the natives cannot make sugar from it. Whether this arises from the dampness of the atmosphere, or the cane not being of a proper genus, or want of skill in the boiling, I have not been able to ascertain; but certain it is, that many attempts have been made to manufacture sugar, both by Europeans and natives, without effect. The juice of the cane is said to be so poor, and so deficient in the essential salt, that it will not granulate into sugar, as in many other parts of Bengal.

The only produce of the sugar-cane of this place is a coarse kind of molasses or jaggry, which is used by the tobacconist, confectioner, and bricklayer for cement. I have, &c.

Chittagong Factory, 18th September 1793. Philip Coales.

(From the Resident at Rungpore, 22d September 1793.)

From the Resident at Rungpore, 22 Sept. 1793.

Gentlemen:—I must solicit your forgiveness for having so long deferred replying to your letter of the 12th October 1792, covering extract of one from the Court of Directors, bearing date the 25th April 1792. It was my wish to apply fully and minutely to every particular inquiry, but I find myself at last under the necessity of laying before you the imperfect information which my present experience and inquiries enable me to give. Many of the queries have been answered in former letters, and many can only be answered by the Collectors of districts, who alone have the means of obtaining information on the subject.

Question 1st. Can only be answered by the Collectors of districts.

2d. Answered: vide letter to the Board of Trade, 10th February 1792.

3d. The cultivation is greatly increased throughout the country within these two years, but to what extent in this or any other particular district I cannot pretend to say; in all the aurungs within the circle of my business on the part of the Company, I may safely state the cultivation to be now above double.

4th. What it was in 1791, and it is still certainly capable of very great increase; but what, and under what degree of encouragement, I cannot determine.

5th and 6th. Vide letter 10th February 1792, paragraph 12th.

7th. Remark on 1st question.

8th. Those ryotts who now do, or who ever have cultivated sugar-cane, may without difficulty be prevailed on to apply such portion of waste lands as they may be able to procure on advantageous terms, and are fit for its growth, to that culture, if possessed of stock, or the means of procuring it for the purpose. I cannot, however, say what terms might by them be deemed sufficiently advantageous. Those ryotts who have not themselves, or whose ancestors have not been engaged in the cultivation of any particular produce, can scarcely ever be prevailed upon to commence it.

9th. Vide letter 10th February 1792, paragraph 6th and 7th.

10th. Vide accompanying statements.

11th. The number of canes in a begah is never reckoned, nor the quantity of juice the produce measured: but the value of the begah estimated by the quantity of goor produced therefrom, which varies according to circumstances from 10 to 20 maunds of 68 sicca-weight.

12th to 15th. Vide letters 10th February 1792, paragraphs 10th, 11th, and 13th; and of 13th January 1792, paragraphs 4th, 5th, and 6th, and of 19th ultimo, as to the preparation.

16th. Vide accompanying statement.

17th. There are numberless sugar-works in this and the adjoining districts, four or five held by Europeans, and all the rest by natives.

18th to 21st. I cannot speak to these points as having reference to a particular district. I stated in my letter to the Board of Trade of the 10th February 1792, paragraph 13th, the estimated quantity produced in all the aurungs subordinate to this factory at that time. The produce of this season may be above double.

22d. The current rate of its cost (by which I presume is meant the average rate of the season) will appear on my accounts and invoices.

23d. I conceive the cost may be reduced in time to about S.Rs. 4 12 or 5 per maund of 68 sicca-weight first sort, or from $5\frac{1}{2}$ to 6 sicca rupees per maund of 80 sicca-weight: but this can only be done when the produce may be so increased as to equal the demand for the article, as well for exportation as for the internal consumption of the country.

24th. Experience alone can determine the most eligible mode of making purchases for the Company. It appears, however, reasonable to suppose, that the same mode which has with so much success been adopted in the purchase

From the Resident at Ruagpore, 22 Sept. 1793.

purchase of other articles composing the Company's investment, might be found equally eligible in the purchase of this article: that is, of making advances through the Company's Commercial Agent to the cultivators and manufacturers. But it has before been observed, that the cultivators and manufacturers are totally distinct classes of people one from the other; advances may be made to either or both, but to which with most advantage to the Company may be worthy of inquiry. That mode of purchase which would most effectually secure to the Company the greatest possible quantity of sugar at the lowest possible fair price must of course be the most eligible; it is evident, that the quantity produced in the country, and the demand for it continuing the same, the Company can only extend their provision by increasing the price. An increase of cultivation can alone embrace both these objects: that mode, therefore, which would most effectually tend to increase the culture of sugar-cane must be the most eligible; the greater the encouragement held out to the cultivators, the more readily of course will they go on with, and extend to the utmost the cultivation; that mode of provision, therefore, which would most effectually protect and encourage the ryott, must be the most eligible.

The culture of sugar-cane is so expensive, that the generality of the ryotts cannot carry it on with their own small funds alone. Hitherto the goladars, or manufacturers of the sugar, have been the persons from whom they have chiefly received the assistance necessary for the purpose; but even the goladars have not sufficient funds to afford that extensive assistance necessary to effect a great increase in the cultivation. Advances made by the Company's agent to the manufacturers would enable them to advance again to the cultivators, and also to furnish themselves with implements for the manufacture: it may, therefore, appear eligible to make such advances. Some objections may, however, be made to this mode of provision. It is hardly possible to ascertain whether the manufacturers, receiving advances from the Commercial Agent, do or do not actually employ those sums in the manner wished and intended. If, as is by no means improbable, instead of advancing again to the ryotts, to enable them to carry on and extend the cultivation of the cane, they convert the money to their own use in any other way; or if, as is still more probable, they do advance either the whole or a part to the cultivators, but at the same time bind them down by a hard and usurious bargain, the intention of the advances is totally defeated.

In my letter to the Board of the 13th January 1792, paragraph 9th, I attempted to explain the nature of the engagements between the goladars and gutchuahs; but I have since found, by a more particular personal inquiry, that the excess of goor stipulated to be delivered by the latter as interest on the sums advanced, greatly exceeds the rate there stated. Many of them are bound to deliver an excess, at the rate of two annas per mensem on every rupee, from the time of receiving the advance till the delivery of the goor, or in other words, to pay interest at the rate of 150 per cent. per annum; very few pay less than one anna per mensem, or 75 per cent. per annum. Moreover, if on settling the accounts of receipts and advances of the season, a balance should appear in favour of the goladar, the gutchuah is obliged to enter into a fresh engagement from that date for the delivery of goor of the ensuing crop to the amount of such balance, together with an excess on that again, at the same rate on account of interest; the consequences of this load of compound interest, of usury upon usury, are too obvious to require exposition.

This evil has been in a great measure remedied, as far as relates to the cultivators, this last season: for the extensive demand for sugar for exportation is so universally known, that they have greatly raised the price of the goor to the manufacturers, who have consequently raised the price of the sugar in an equal or perhaps a greater proportion.

Advances made to the cultivators of the cane immediately by the Commercial Agent, would, in my opinion, tend more than any other measure that could be adopted to the benefit and protection of the cultivators, consequently to the extension of cultivation, and all the various advantages to the country in general and to the Company that must thence arise, inasmuch as they would thereby

thereby be at all times certain of receiving sufficient assistance in proper time to enable them to provide stock and carry on the cultivation with vigour, without being shackled with exorbitant interest or any other species of exaction which they are liable to in their dealings with the manufacturers. From the Resident at Rungpore, 22 Sept. 1793.

I am fully aware that some objections may be made to this mode of provision: the most obvious is the risk of loss by balances. That some balances might be incurred is not only possible, but probable; to prevent these becoming large, much care, activity, and exertion would certainly be necessary on the part of the agent under whose management the provision is conducted. If it may be presumed that the agent is careful and active, I cannot foresee much risk of considerable balances, not even so much risk as there must be in advancing to the manufacturers; for it is much more easy to ascertain what quantity of land a ryott has in cultivation, what will be the probable produce of that land, and the value of that produce, than what will be the probable quantity of sugar a manufacturer will be able to deliver, which must depend upon his engagements for goor, and these they may state falsely or not at all: it is also much more easy for the manufacturer to make away with the manufactured sugar for which he has received advances, than the cultivator with the cane or goor. In the prosecution of this mode of provision, it would be necessary to erect works for the manufacture of the sugar from the goor. The expense of these works, and of the establishment of servants necessary for the manufacture, may be urged as an objection; the same may be held forth as an argument against the introduction of any new manufacture. But in fact, if the cultivation of the cane be extended, additional works must be erected, and additional hands employed to manufacture it; if by individuals, the expense must still ultimately fall on the purchaser, as it will naturally be added to the price of the sugar. On the other hand, as the Company must be at the expense of erecting or hiring golahs in various parts of the country, for the reception of ready-made sugar till it can thence be transported to the presidency, if sugar-works were erected by the Company at these places, the expense which individual manufacturers must incur (and the purchasers ultimately pay in the price) of golahs for the sugar they manufacture, would thus be saved to the Company, as also the expense of transporting the sugar from the golah of the manufacturer to that of the Company. Another great and obvious saving would be effected by this mode, *viz.* the manufacturer's profit.

It may perhaps not be unworthy of inquiring, whether it would be possible, or of advantage to the Company, to improve the quality of the sugar to be exported to Europe? That it is capable of improvement there can be no doubt, if not in all, at least in many parts of Bengal. The extreme bigotry of the natives to long established customs and dislike to all kinds of innovation, must check, if not totally frustrate every attempt of the kind while the manufacture is wholly in their hands. If, therefore, any improvement be desirable, as it can only be effectually brought about by the direction and under the immediate superintendance of the Europeans, so it would be necessary to put the manufacture (a part at least) under the superintendance of the Commercial Agents. It would never be possible to provide, in this way, near the quantity of sugar necessary for the Company's investment; the natives must and will continue to manufacture it; but a considerable quantity might be so provided, I am of opinion, at a cheaper rate and of a superior quality. The native manufacturers would probably be less exorbitant in their demands for the sugar purchased of them, seeing the Company less dependent on them for a supply, and the agent would be always able to ascertain, by the cost of that manufactured by himself, what would be a fair price to pay for other sugars.

It is probable that there may be many forcible objections to this mode of provision; but as none have yet occurred to my mind, I must declare it to be my opinion, that the most eligible mode of making purchases for the Company would be by advances to the ryott, immediately through the Company's Public Commercial Agent.

25th. All the dregs, except the scum of the first boiling of the juice into goor, and the dirt remaining in the cloth bags, through which the liquor of the first boiling of the goor is strained, are converted to some use or other: chiefly made into sweetmeats, and mixed up with the tobacco for smoaking.

From the Resident at Rungpore, 22 Sep. 1793.

26th. The refinement is carried no farther than chenee, except a very small quantity of sugar-candy (and that only when particularly bespoke, and of a very bad quality) for the consumption of Europeans.

I have, &c.

Rungpore, 22d September 1793. B. Mason, Resident.

Statement of the Expense of Cultivation on one begah of eighty hauts square.

	Rs.	A.	P.
Rent of land	3	0	0
Six cawn of plants at 1½ per rupee	4	0	0
Plough bullocks and driver, for 12 days, at three annas per day	2	4	0
Six bildars digging round the field, and throwing the earth thereon, one anna	0	6	0
Eight coolies carrying fresh mould into the field, and laying it smooth	0	8	0
Six do. carrying manure	0	6	0
Harrow, bullocks and driver, one day	0	3	0
Plough, &c. for trenches, one day	0	3	0
Six coolies laying the plants therein	0	6	0
Eight coolies weeding after the plants shoot	0	8	0
Six do. loosing the earth about the shoots	0	6	0
Eight do. weeding and adding the liquid manure of cullee, &c.	0	8	0
Cullee for manure	0	4	0
Plough, &c. and six coolies for one day removing the earth from the intervals between the rows of cane, and placing it on the roots	0	9	0
Twice weeding again, eight coolies	1	0	0
Eight coolies tying up the canes	0	8	0
Six do. again	0	6	0
Eight do. again	0	8	0
Eight coolies weeding the last time	0	8	0
Eight do. tying up the canes	0	8	0
Sixteen do. cutting and carrying the canes to the mill	1	0	0
S.Rs.	17	13	0

N.B. No charge is here introduced for manure except cullee, as the cultivators seldom use, or can get more than is produced from their own cattle.

In many parts of these districts a charge is incurred for chokydars to watch the field at night, to drive off the wild hogs.

Statement of the Expense of Manufacture of 400 maunds of Sugar.

	Rs.	A.	P.			
Fifteen coolies for six months at 1 12 per month each	157	8	0			
One butyar for six months, at five per month	30	0	0			
Milk, twenty-four maunds	22	0	0			
Fire-wood and straw	67	8	0			
Cooley hire, bringing the goor from sundry places	50	0	0			
Gunneys for pressing the goor in	6	0	0			
Jute and twine	7	0	0			
Two currai hire for six months	50	0	0			
Making a matchaun	5	0	0			
Two hundred and twenty koondars	10	0	0			
Two golah houses	20	0	0			
One boiling house	15	0	0			
One house for mâht	15	0	0			
One house for cheenee	10	0	0			
Total charges on 400 maunds of 60 sicca-weight				465	0	0
Per maund of 60 sicca-weight				1	2	7 70
Do. of 80 sicca-weight				1	8	9 70

B. Mason, Resident.

Rungpoor, 22d September 1793.

Reports

Reports from the Collectors of Revenue, in Answer to the Questions of the Board of Trade, of 7th August 1792.

My Lord:—We have the honour to submit to your Lordship in Council the accompanying copies of Reports received from several of the Collectors regarding the cultivation of sugar, required by the orders of your Lordship in Council of the 13th August, 1792. Letter from Board of Revenue, 26 Dec. 1792.

2. We beg leave to recommend, for the reasons stated by the Collector of Nuddea, that he be authorized to advance tuccauvy in his district, at the periods specified, in cash instead of in kind, as suggested by him, previously submitting to us an estimate of the amount which will be necessary, to be repaid under the general regulations.

We have, &c.

(From the Resident at Benares, 12th November 1792.)

Sir:—I have just been favoured with your circular letter of the 29th ultimo respecting sugar. I beg leave to state to you, for the information of the Board of Revenue, that since the receipt of the orders of the Governor-General in Council of the 13th August last, every possible exertion has been used here to procure the necessary documents from the moffussil, and to arrange such of the accounts of the custom-houses of Benares, Ghazeepoor, Juanpoor, and Mirzapoor, as relate to the subject in this province, where the cultivation of the cane is so very extensive, and where exports in sugar are so great. I hope the Board of Revenue will readily allow, that a full report thereof, so as to afford Government the complete information required, must necessarily require a considerable portion of time. Political Resident at Benares, 12 Nov. 1792. *See a full Statement in page 189.*

I am, &c.

Benares, 12th November 1792. P. Treves, Acting Resident.

(From the Collector of Sircar Sarun, 11th December 1792.)

Gentlemen:—I have been favoured with a letter from your acting Secretary, under date the 17th August, with enclosures, "respecting the growth &c. of "sugar, and requesting me to state whether I could suggest any mode for "extending the cultivation, or whether I would leave it to suit itself gradually "to the actual demand; likewise to point out any existing causes which may "tend to discourage the cultivation of it." From the Collector of Sircar Sarun, 11 Dec. 1792.

The account I have now the honour to enclose, exhibits the quantity of begas of sugar-cane in cultivation, the size of the bega in English yards, the computed quantity of sugar produced in the district, the quantity consumed in it, the quantity exported, and whither exported. *Vide Abstract, page 189.*

The cultivation of sugar being exceedingly advantageous to the planter, and not aware of any existing cause which tends to discourage it, I most stedfastly recommend that it be left to suit itself to the actual demand; which I am confident will contribute more to its increase than any regulations of Government.

I have, &c.

Chuprah, 11th December 1792. A. Montgomerie, Collector.

(From the Collector at Tirhoot, 15th December 1792.)

Gentlemen:—I have the honour to acknowledge your Secretary's letter of the 17th August last, with an enclosure from the Sub-Secretary to Government, containing an extract from the Board of Trade, desiring my Report on certain points relative to sugar, which, for the sake of perspicuity, I beg leave to state at length, writing my answers opposite to each, according to the most satisfactory information I have been able to obtain, after having used every means I thought likely to be successful. Collector of Tirhoot 15 Dec. 1792.

1st. The

Collector of Tirhoot, 15 Dec. 1792.

1st. The number of begas of sugar-cane in cultivation?

1st. The number estimated is two thousand.

2d. The size of the bega in cubits or yards?

2d. The bega of this district of twenty cottahs each way, which are equal to sixty English yards, contains three thousand six hundred square yards.

3d. The quantity of sugar annually produced in the district?

3d. Sugar has never hitherto been manufactured in this district, the juice of the cane being turned into goor or jaggry, which is used with tobacco. Of this the quantity annually produced is estimated at ten thousand maunds, seven thousand of which are allowed for the consumption of the district, and the surplus is exported to Patna. The quantity of sugar consumed is calculated at eight or nine thousand maunds, which is supplied from Benares, Patna, and Gooruckpore.

4th. Is it advisable to take any steps for extending the cultivation of sugar, or would it be preferable to leave it to suit itself gradually to the actual demand?

4th. I am of opinion, speaking generally, that the cultivation of this article will gradually extend in proportion as the demand increases, and that any particular steps are therefore unnecessary.

5th. Point out any existing causes which may tend to discourage the cultivation of sugar.

5th. I know of none, except the soil, which in general is unfavourable to the growth of cane.

Vide Abstract in page 180.

Sugar, as I have already had the honour to observe, has never been made in this district, owing probably to the inferiority of the juice: the present demand has, however, induced some adventurers to make the attempt this year; but as this is the beginning of the season, it is impossible for me now to say any thing satisfactory relative thereto. The juice is certainly inferior, and so consequently must be the sugar; but whether it may not be made of a good merchantable quality still remains to be determined.

I have, &c.

Tirhoot, 15th December 1792. R. BATHURST, Collector.

(From the Collector of Shahabad, 14th November 1792.)

Collector of Shahabad, 14 Nov. 1792.

Gentlemen:—In obedience to the orders of the Governor-General in Council, transmitted in your Secretary's letter of the 17th of August last, I have the honour to furnish the statements required for the information of the Board of Trade.

2d. In regard to the 3d paragraph of their letter for extending the cultivation of sugar-cane, I beg to observe, that on the receipt of the Council's order of the 17th September, directing the Collectors to make it their particular attention to promote the culture of this article, a publication was immediately issued, setting forth the beneficial advantages that would result from their labours; in consequence of which several proprietors of estates in pergunnah Arrah and Barragang, offered to double the number of begas now in cultivation, provided they were assisted with an advance of tuccauvy. Under this assurance, and their engaging not to appropriate it to any other object, the sum of twelve hundred rupees was proportioned out to them, according to their needs: and should I, at the end of this season, find beneficial consequences attending this encouragement, I shall recommend its being more generally and largely adopted, and in my circuit through the district it shall be my particular object to hold out every encouragement to the proprietors and farmers who will attend to augment the cultivation of this article.

3d. In answer to the 4th paragraph, "on the existing causes tending to the "discouragement

" discouragement of the cultivation," they are various, and though the unfavourableness of the soil may be urged, none is greater than the indolence of the inhabitants. The cultivation is laborious, the produce precarious; some places subject to inundation, others exposed to a scarcity of water. I have myself examined the cane of this year (which has certainly been a favourable season), and find it small, hard, and yielding little juice when compared with the production of many other districts: and this, I much fear, is to be attributed to the poverty of a sandy soil, little suited to bring the cane to perfection. I am convinced, however, it has now become the most advantageous article of cultivation, though it may fall short of the profit arising from it in other places. The poverty of the inhabitants is another obstacle to any considerable extension of the cultivation, which can only be relieved by the assistance of tuccauvy advanced on the grand scale of improvement by Government, or by individuals for the produce; but merchants are averse to advance, unless on the crop itself. I am of opinion, likewise, that the advantages of a ready sale and a profitable market, will operate as effectually as any other kind of encouragement to promote the wishes of Government.

From the Collector of Shahabad, 14 Nov. 1792.

Vide Abstract in page 180.

I have, &c.

Shahabad, 14th November 1792. T. Brooke, Collector.

(From the Collector of Behar, 11th November 1792.)

Gentlemen:—I was duly honoured by the receipt of your instructions of the 13th August, requiring information relative to the cultivation of sugar in this district; I have also received your Acting Secretary's letter of the 29th ultimo, desiring me to transmit that information as soon as possible.

From the Collector of Behar, 11 Nov. 1792.

Permit me, Gentlemen, to assure you in reply, that the delay has not arisen from any languor on my part, or want of attention to your orders; but that it has been really unavoidable from the nature of the subject. I have long since taken the necessary measures for enabling myself to furnish the information in question, but I have it not yet in my power to submit it to your consideration in the manner I could wish. As soon as the expected replies to my perwannas and queries are received, the result shall be laid before you; nor shall the delay of a single day, that can possibly be avoided, take place.

Vide page 182.

I have, &c.

Huswa, 11th November 1792. A. Seton, Collector.

(From the Collector of Bhaugulpore, 14th November 1792.)

Sir:—I have received your letter of the 29th ultimo, and enclosed transmit answers to the queries proposed by the Board of Trade respecting sugar.

From the Collector of Bhaugulpore, 14 Nov. 1792.

1st. By a late inquiry it appears that there are at this time 2,338 begas of sugar-cane cultivated in the Behar division of the district, and about 4,000 begas of the same in the Bengal division.

The bega is always twenty cottahs square, or four hundred square cottahs; and though the length of the cottah varies a little in different pergunnahs, every useful purpose of the proposed calculation may perhaps be answered by taking the mean length of the cottah in the Behar part of this district at eight feet five inches, and the mean length of that in Rajemahl at six feet three inches. Whence the bega in Bhaugulpore will contain 3,148 4 4, and in Rajemahl 1,736 1 square yards. To the former bega the acre will be as 1 to 0,65, and to the latter as 1 to 0,36 nearly; and the sugar-cane land in Bhaugulpore will amount to 1,519 7, and in Rajemahl to 1,440 acres.

2d. A begă of sugar-cane in Bhaugulpore is said to produce from twelve to four maunds of goor, whence eight maunds is the medium; and in Rajemahl, where the cane is in some places larger than in other places, four maunds and two and a half maunds are said to be the average rates of the produce. The goor produced in Bhaugulpore will, at the above rate, be 18,704 maunds, and in Rajemahl 13,750 maunds; but the Calcutta maund being to the Bhaugulpore maund as 0,8 to 1, and to the Rajemahl maund as 20 to 23, the above two quantities in Calcutta weight will be 23,380 and 15,812½ maunds.

From the Collector of Bhaugulpore, 14 Nov. 1792.

There is no exportation of sugar from Bhaugulpore, owing it may be presumed to the bad quality of it, the cause of which will be hereafter noticed, consequently the above 23,380 maunds are consumed in the district; and there is better sugar imported for those who can afford to use it, but how much cannot be known. From Rajemahl about 10,000 maunds of the produce is supposed to be exported towards Moorshedabad; but this is a vague guess, and there are no means of ascertainment.

3d. I would suggest that the cultivation of it should be left to suit itself, whether gradually or suddenly, to the actual demand, since there seems to be no option consistent with prudential maxims on the one hand, and the free agency of the cultivator and his landlord on the other.

4th. There are no causes of discouragement known, except certain natural ones, which seem to be incapable of removal. The principal of these is a salt of the nature of Epsom salts, with which many of the wells are, and of course much of the land is in the district south of the Ganges impregnated; and to which, with great probability, is imputed the bitter taste that renders Bhaugulpore sugar so much inferior to that made in other districts. This bad quality is not found in the sugar made in Rajemahl; but there, as in Bhaugulpore, the cane is of an inferior size, and the soil where it is chiefly cultivated of a nature very different from that of Rungpore and other provinces productive in sugar north of the Ganges, which appears to be a deposit left by the rivers upon a basis of sea sand.

Vide Abstract in page 182.

I am, &c.

Bhaugulpore, 14th November 1792. S. Davis, Acting Collector.

(From the Collector of Dacca, 17th November 1792.)

From the Collector of Dacca, 17 Nov. 1792.

Gentlemen:—I have been favoured with the Acting Secretary's letter of the 13th August last and its enclosures, and now proceed to answer the several questions required by the Board of Trade.

1st. Upon a calculation made, I imagine about ten thousand bigas of fifty yards square.

2d. No cheenee is made from the produce of the sugar-cane in this district, it being of so bad a quality that only goor can be extracted from it. The cheenee from which the sugar is extracted for the consumption of the city comes from Dinagepore, Rungpore, and Gazeepore. Cheenee sells at twelve rupees per maund; and the following are the proportions of the different qualities of sugar made at this place from a maund of common cheence:

1st quality	16 seers
2d ditto	18 do.
3d ditto	20 do.

None is exported, and not more than fifty maunds a year consumed. The goor is used in large quantities, but this having no connexion with the question, I have not made any inquiry relative to the quantity that may be consumed in the district.

3d. I conceive the leaving the cultivation of sugar to suit itself gradually to the actual demand, far preferable than the adopting any measure for the extension of it, as any measure adopted by Government would probably induce the proprietors of lands to increase the rents of grounds equal to the cultivation of sugar; and it is reasonable to suppose that it is unnecessary, as the inhabitants, upon there being a great demand, will of course cultivate the lands with that which is more beneficial and advantageous to themselves.

Vide Abstract in page 180.

4th. I have before observed, that only the goor is extracted from the sugar-cane of this district, which is occasioned from the lands being marshy and low, and calculated only for the produce of grain.

I have, &c.

Dacca, 17th Nov. 1792. S. Middleton, Acting Collector.

(From the Collector of Mymunsing, 21st November 1792.)

From the Collector of Mymunsing, 21 Nov. 1792.

Gentlemen:—I have the honour to acknowledge the receipt of your letter of 17th August last, which I delayed replying to before, in hopes of being able to procure satisfactory information on the subject of the extract of the

Board

Board of Trade's letter enclosed; but the essential part of this information can only be obtained from the zemindars' mofussil accounts for last year, or for a series of years, the examination of which is so tedious an operation that they have not yet been able to furnish me with it, and to state it on conjecture would be so vague and inconclusive, that it would be only leading you into error; I must therefore beg, Gentlemen, that you will permit me to defer fully answering the queries of the first and second paragraphs, until I can do it with more certainty.

From the Collector of Mymunsing, 21 Nov. 1792. *But see page* 182.

There is no sugar exported from hence, and scarce any imported; of consequence, the quantity consumed must be nearly equal to the quantity produced.

There are many objections to the extension of the culture of the sugar-cane in this district. The soil is generally much too low, and the crop precarious from the probability of inundations, to which this plant, from its being annual, is particularly liable. The cane pays a much higher revenue to the zemindar than any other article, both on account of the superior quality of the land, and the injury sustained by its impoverishment of the soil, which must be fallow upwards of four years before it recovers its vegetative powers.

The ground prepared for planting the cane must be raised and manured at a great expense, and the labour of cultivating it is not compensated in the same proportion with the cultivation of other productions better suited to the species of land it occupies. The cane is also of a much inferior quality here to that produced in more elevated soils, which must ever confine the cultivation of it to home consumption, as it would bear no competition in the market with the better sort.

This district is principally adapted to the culture of grain; and though rice is its staple produce, yet it is equally well suited in the dry season to wheat, barley, boote, and all the other species of grain produced in Bahar, as I have experienced from several trials made by myself, and particularly in experiments of last year, notwithstanding the drought, a circumstance, in case of the failure of the rice crops, promising more general benefit than the cultivation of the cane, as if properly attended to, it may avert or mitigate the miseries of those dreadful famines which have so often desolated the country, and replace the stock of grain which will be lost to the community from the expected employment of a greater number of hands elsewhere, in the additional cultivation of sugar.

I have, &c.

Mymunsing, 21st Nov. 1792. S. BAYARD, Collector.

(From the Collector of Tipperah, 28th November 1792.)

Gentlemen:—I have received your letter of the 17th August, directing me to reply to sundry questions proposed by the Board of Trade respecting sugar, and have now the honour to transmit a statement, exhibiting the information required.

From the Collector of Tipperah, 28 Nov. 1792. *Vide Abstract in page* 182.

It is necessary to observe, the cane throughout this district is of a very inferior quality, owing chiefly to the poorness of the soil; that it is unfit for makingsugar, and that the quantity of goor manufactured is little more than that consumed by the natives of the district.

I have, &c.

Tipperah, 28th November 1792. W. McGUIRE, Collector.

(From the Collector of Jessore, 24th November 1792.)

Gentlemen:—I beg leave to lay before you the information respecting the growth of sugar-cane in this collectorship, required by the orders of the Governor-General in Council enclosed in the letter from your Secretary of the 17th of August.

From the Collector of Jessore, 24 Nov. 1792.

1st. Estimated at begahs 760. The size of the begah in all the mehals in this collectorship is ninety covits, except in Mahomedshye, where it is eighty only, and the number of begahs in this pergunnah is 253.

2d. The

From the Collector of Jessore, 24 Nov. 1792.

2d. The first produce of the cane is a coarse kind of sugar called goor. The quantity of this is estimated at Maunds 8,747 11 seer of 80 sicca-weigth, of which 7,747 maunds are estimated to be consumed in this district, and 1,000 maunds manufactured into sugar. I do not find that any is exported. Sugar from the date-tree is produced in considerable quantities in this district, both for exportation and internal consumption..

3d. The extension of cultivation must chiefly depend upon the demand. The regulations of the Governor-General in Council of the 17th of September last, appear to me to hold forth a great encouragement to the ryotts to increase the cultivation of the sugar-cane, and when more generally known, and that there will be a demand for any quantity, I have no doubt will have the desired effect. An advance also to the ryotts at the season of cultivation would be very conducive to its extension.

Vide Abstract in page 180.

4th. The districts under my controul being generally low situated, the soil is consequently uncongenial to the growth of sugar-cane: nevertheless a much greater quantity may be produced than at present, and as the prospect of profit opens, I doubt not the ryotts will direct their attention to its increase.

I have, &c.

Jessore, 24th November 1792. R. Rocke, Collector.

(From the Collector of Rungpore, 24th November 1792.)

From the Collector of Rungpore, 24 Nov. 1792.

Gentlemen:—I hope you will pardon the delay which has occurred in the transmission of my reply to your Secretary's letter of the 17th instant, enclosing some queries from the President and Members of the Board of Trade respecting the present state of the cultivation of sugar. It has been occasioned by my wish to procure the most satisfactory information on the subject; and as the only means I have of obtaining such information is from estimates formed by the proprietors of land and dealers in this article, I am afraid, after all, that its accuracy is not entirely to be depended on.

The only parts of this district in which the cultivation of the sugar-cane is carried on to any considerable extent are the pergunnahs of Edrackpore and Surroopore, where, as in Baharbund, and the sicca Mehauls of Palasbang, Bobanpore, Shicker, Sultanpore and Bulluhaur, the common measure of the lands is in begas and cottas. The size of the begah in Edrackpore is ninety-one square covids, in Surroopore ninety-eight square covids, and in the sicca Mehauls eighty-four square covids. In the other pergunnahs under this collectorship the measure commonly in use is the ghong, beese, dhone, and cunnee, sixteen cunnecs making one dhone, twenty dhones one beesee, and sixteen beesees one ghong. The measure of the dhone is every where about seventy square covids.

Vide Abstract in page 180.

In the accompanying statement which contains an abstract of the account furnished in consequence of my requisition, the quantity of sugar exported from Rungpore is estimated at only 2,797 mds. 21 sr. 5 ch.; and if the sugar imported from other districts, as well as what might be produced from the goor brought from Dinagepore, be taken into the account, it will follow that the internal consumption of Rungpore is nearly equal to the quantity grown in the district. But I am of opinion that the produce is under-rated, and that the consumption is much less than the quantity at which it has been estimated, although I have no proof of the fact. I have not ventured to make any alteration in the estimate.

The principal export of sugar from this part of the country is to Moorshedabad and Calcutta, but it is also sent in small quantities by the native merchants to Dacca.

A considerable part of the lands in the district of Rungpore is naturally too low to produce the sugar-cane to advantage, but there is no doubt that the cultivation might be extended greatly beyond what it is at present. It is, I believe, an unquestionable fact, that the profit derived from it is considerably greater than any other article yields that is usually grown in this neighbourhood, and that this was the case even before the late advance in the price of sugar; reasoning, therefore, on general principles, it should seem that

that no other encouragement ought to be necessary to induce the ryotts to carry the cultivation to as great an extent as the circumstances of their lands and the demand of the markets might render practicable or expedient; but although my information leads me to suppose that the high price of sugar will certainly have an immediate effect, yet I apprehend it will not be in so great a degree as might reasonably be expected. From the Collector of Rungpore, 24 Nov. 1792.

Where the ryotts pay their revenues according to what are termed fussulee pottahs, which is a very general practice, the rate of sugar-lands is always higher than any other; but even supposing it to be the highest that is known in this part of Bengal, the profit is still estimated at more than what is reaped by the cultivator of grain, mulberry, or any other production; and as it is common for many ryotts to hold their lands at a fixed rent, whatever be their produce, the rates of such pottahs being usually no higher than what is paid for paddy fields, the advantages arising to persons of this description cultivating sugar are of course proportionably greater. One would imagine that these ryotts, having so obvious an advantage, would plant the sugar-cane in all their grounds capable of producing it: but the fact is otherwise, and can only be accounted for on the principle of the well-known dislike of the natives of this country in general to every species of innovation. On the whole, I do not hesitate to declare my sentiments, that any further encouragement than what is held out by the present high price to which sugar has risen is unnecessary, and that unless a considerable fall in its value should check the increase of cultivation, it will be carried as far as the soil and the prejudices of the natives will allow, without aid from Government. I have no apprehension of any difficulty in enforcing the orders of Government of the 17th September, preventing landholders from increasing the rates of pottahs for sugar-cane lands in consequence of the present high price of sugar.

I have been told that a considerable quantity of sugar was formerly grown in Carguhaut, and it is certain that the lands in this pergunnah are very well calculated for the purpose, but the produce is now very trifling. The reason I have heard assigned for the decay of this cultivation is, the very great decrease of population, and consequent increase of uncultivated jungle, occasioned in the first instance by the calamity which the country experienced in 1194, the effects of which have rather been increased than diminished by the subsequent mismanagement of the zemindars. The extensive jungles with which Carguhaut now abounds, serve as a shelter to multitudes of wild hogs, and these animals being remarkably fond of the sugar-cane, some individuals who, to my knowledge, have attempted to reintroduce the cultivation there, have found it so troublesome and expensive to prevent their ravages amongst the plantations, that, after many efforts, they have relinquished the endeavour. This is an obstacle that can only yield to time, and to the beneficial operations of the general regulations.

I have, &c.

Rungpore, 24th November 1792. J. LUMSDEN, Collector.

(From the Collector of Dinagepore, 21st November 1792.)

Gentlemen:—I now report, as required by the Acting Secretary's circular letter of the 13th of August last, upon the points submitted by the Board of Trade to the Governor-General in Council the 7th of that month; that 13,959 begas is the computed quantity of land at present cultivated with sugar-cane. From the Collector of Dinagepore, 21 Nov. 1792.

2d. The measure of the begah in most villages varies, except in the zemindarry of Dinagepore, which composes the chief part of the district, and where the standard for the measure of the begah is fixed throughout at eighty-seven cubits, or forty-eight and one-twelfth of a yard long; but in no part of the district does the measure exceed one hundred or fall under seventy cubits length. The computed quantity of sugar annually manufactured is 15,422 maunds.

I possess no means whereby to ascertain the quantity of internal consumption, but I estimate it to bear, in proportion to the whole quantity manufactured, about one-fourth.

3d. Since the rates for the lands have been fixed by the proprietors, it

From the Collector of Dinagepore, 21 Nov. 1792.

occurs to me as being most likely to extend the cultivation of sugar-cane, to leave it optional with the lessees and cultivators, who no doubt will readily convert their lands to this culture in proportion to the prospect of benefit that shall open to them from the present, and in all probability future increasing demand for sugars.

4th. No causes exist tending to discourage the cultivation of sugar-cane. On the contrary, it may reasonably be expected that from the equalizing throughout the district, and rendering the rates of the lands permanent, together with the entire abolition of assessing the leaseholders according to the quality of the crops, and in fact thereby cramping the industry of the cultivator, the growth of sugar-cane will become general upon such lands as shall be found fitting for the purpose, more especially when the great call for sugars shall secure at all times to the cultivators a ready and profitable vent of their crops.

5th. I submit for your further information an account of the usual produce of a begah of land cultivated with sugar-cane. In a commonly favourable season, one bega with another yields four maunds of raw materials denominated goor or jaggurree, but supposing the product of the cane prepared expressly for the purpose of manufacturing dry sugars, it will average ten seers of sugar, twenty-five seers of choah or molasses, and one-eighth of the whole will be lost. I have not the least doubt but that the article of common goor may be manufactured into sugar, and I mean to prove this to the natives by experiment, and afterwards publish the process for general information.

Vide Abstract in page 180.

I am, &c.

Dinagepore, 21st Nov. 1792. G. Hatch, Collector.

(From the Collector of Ramghur, 17th November 1792.)

From the Collector of Ramghur, 17 Nov. 1792.

Gentlemen :—I now do myself the honour of replying to the several questions proposed by the Board of Trade respecting the cultivation of sugar, which came enclosed in your letter of the 7th August 1792.

1st. Owing to the badness of the soil and difficulty of procuring water, the cultivation of sugar in these districts is but trifling.

The accounts which I have received state it to amount to 1,200 begahs only.

The size of the begah here varies from fifty-two and a half to sixty English yards square.

2d. The jaggrey produced (for no finer sugar is made here), is very disproportionate to the quantity of cane cultivated, not exceeding upon an average eleven Calcutta maunds per bega; and this not being equal to the consumption, the inhabitants are supplied with the finer sorts of sugar from Benares, Behar, and Burdwan. As no accounts are now kept of the quantity of this article which is imported, it is out of my power to state, with any kind of accuracy, the quantity consumed, but I have every reason to think none is exported.

Vide Abstract in page 180.

3d. The late increased demand for sugar, and the very high price it bears, will, I am of opinion, prove a sufficient incentive to the cultivation of it. I think it however my duty to communicate to you, that in consequence of the particular inquiries which have been recently made respecting this article, the ryotts in several parts of the country have got an idea it is the intention of Government to confine the sale of it to its own agents solely, which will of course enable them to buy it at what rate they think proper. As I do not suppose there is any foundation for their apprehensions, I beg leave to suggest the issuing an advertisement, calculated to do away the impressions this idea may have made on the minds of the ryotts.

4th. Except the circumstance above mentioned, I know not of any existing cause that tends to discourage the cultivation of sugar.

I have, &c.

Ramghur, 17th November 1792. Matthew Leslie, Collector.

(From the Collector of Moorshedabad, 9th November 1792.)

From the Collector of Moorshedabad

Gentlemen :—I have now the honour of replying to the Board's circular requisition of the 17th, covering the orders of Council of the 13th August last,

last, with extract of a letter from the Board of Trade, containing the following queries, to which I have annexed replies, upon the subject of the cultivation of sugar-cane. From the Collector of Moorshedabad, 9 Nov. 1792.

1st. The reply to this requisition, specifying the measure and number of begas of sugar-cane in cultivation in this district, is contained in a separate statement accompanying.

2d. The quantity of sugar produced in this district is very small, hardly, I am informed, more than one hundred maunds of eighty sicca-weight to the seer annually, which is consumed in the neighbourhood of the city of Moorshedabad. It is to be observed, however, that the whole produce of the sugar-cane is not appropriated to the manufacture of sugar; much of the first produce of the cane, from pressure, undergoes simply a boiling, which produces the goor, and is consumed in that state in the mofussil without any further process; the little sugar made is manufactured at the city. *Vide Abstract in page* 181.

3d. The quantity of land fit for the cultivation of sugar-cane in this district is so small, as not to appear to me to hold out inducement to offer any particular encouragement for extending the cultivation.

4th. In this district, as remarked in the foregoing, there is little land capable of producing sugar-cane. The expense of bringing the land into cultivation is very great; great labour, to which the natives of Bengal are particularly averse, is requisite in the manufacture of sugar. The sugar-cane requires particular attention, and is very liable to be affected by the seasons.

I have, &c.

Zillah Moorshedabad, 9th November 1792. J. E. HARINGTON, Collector.

(From the Collector of Nuddea, 17th November 1792.)

Gentlemen:—I have duly received your Acting Secretary's letter of the 29th ultimo, calling upon me for a reply to the orders of the Governor-General in Council of the 13th August last, respecting sugar; in reply to which I beg leave to inform you, that on receipt of the orders above-mentioned, I issued perwannahs to all the landholders, renters, and managers of this collectorship, to furnish me with the information desired; from some of whom answers have been received, and I shall use my best endeavours to procure the others as soon as possible: but in the zemindarry of Nuddea to ascertain the number of begas of land producing sugar-cane, and the quantity of sugar consumed by many hundred thousand people, some months more, I fear, will be necessary. From the Collector of Nuddea, 17 Nov. 1792.

I have, &c.

Kishenagur, 17th November 1792. J. REDFEARN, Collector.

(From the Collector of Nuddea, 20th December 1792.)

Gentlemen:—As some days may elapse before I shall be able to answer all the queries stated in the extract of the Board of Trade's letter, which was forwarded to me by your Acting Secretary on the 17th August last, I shall reply to the third and fourth queries, which appear to me most material, and least to admit of delay. The queries are: "to state whether any mode "could be suggested for extending the cultivation of sugar; or whether it "would be better to leave it to suit itself gradually to the actual demand, and "to point out any existing causes which may tend to discourage the cultivation "of sugar." Ditto, 20 Dec. 1792. *Vide Abstract in page* 182.

All the landholders in this collectorship have agreed to grant pottahs to the ryotts for a specific quantity of land, liable to the payment of a fixed annual revenue, on which land the latter may cultivate what they please, without subjecting themselves to any increase of rent. One great discouragement to the cultivation of the most valuable articles of produce is thereby removed; and if all the ryotts had the means of raising sugar-cane, they would naturally extend the cultivation of it, if they found it answer better to them than other kinds of produce. But as the cultivation of this article is very expensive, and requires a capital which the generality of the ryotts are not possessed of, and as it is very uncertain whether they will receive assistance from other quarters,

From the Collector of Nuddea, 20 Dec. 1792.

quarters, if it should be the object of Government to procure in the ensuing year an additional quantity of sugar, without subjecting the price to a general increase, I cannot point out any surer mode of accomplishing it than by making advances of cash in the months of February and March, to such ryotts as may be willing to receive them, for goor to be delivered, when ready, either at a fixed price, or at the price current at the time of delivery, as may be agreed on at the time of making the advances.

I have, &c.

Kishenagur, 20th December 1792. F. REDFEARN, Collector.

(From the Collector of Burdwan, 2d December 1792.)

From the Collector of Burdwan. 2 Dec. 1792.

Gentlemen :—I was favoured with your Acting Secretary's letter of the 17th August last, inclosing extract of a letter from the Board of Trade to the Governor-General in Council, relative to the production of sugar in this district: in reply to which I beg leave to inform you, that from the most accurate information I have been able to obtain, the number of begas of sugar-cane in cultivation amounts to (25,000) twenty-five thousand begas or thereabouts. The Burdwan bega measures 6,400 square covids, or 1,600 square English yards.

2d. I conceive the average product of a bega of sugar-cane to be fifteen maunds of goor, or three maunds thirty seer of eighty sicca-weight to the seer, of the best sugar; but till within these three years very little sugar was manufactured in this district. The natives consumed and exported the produce of the cane chiefly in goor, but what proportion the consumption bore to the exportation is difficult to ascertain with any degree of accuracy; but from the inquiries I have made, I have reason to imagine they were nearly equal. The usual places to which the surplus goor was exported were Calcutta, Hoogly, Channock, and Midnapore. The surplus of the last crops of sugar-cane after allowing for the consumption of the district, was almost entirely manufactured into sugar, and exported to Calcutta. This change in the nature of the export was produced by the great demand for sugar for the Europe market, which became general about the time or a little subsequent to the planting of the present crop; hence the number of begas in cultivation this year does not exceed that of the preceding, although the crops will be more favourable.

3d. I am clearly of opinion that the culture of sugar-cane might be considerably extended in this district; but unless Government were timely to signify their intentions to receive the product beyond the consumption, or a specific quantity, it might be injurious to the ryotts to hold forth any particular encouragement for a greater cultivation than the actual demand requires, I therefore think it ought to be left to suit itself to the exigencies of the market.

Vide Abstract in page 181.

4th. I know of no existing causes which may tend to discourage the cultivation of the sugar-cane.

I am, &c.

Burdwan, 2d December 1792. W. A. BROOKE, Collector.

(From the Collector of Midnapore, 8th December 1792.)

From the Collector of Midnapore. 8 Dec. 1792.

Gentlemen :—Adverting to the orders contained in your Secretary's letter of the 17th August last, I have herewith the honour to transmit to you the inclosed report upon the culture of sugar-cane, and the consumption and exportation of sugar in this district.

I am not aware that any means could be taken with advantage in order to extend the cultivation of sugar-cane, except that of making advances of tuccauvy to the ryotts, in which case the additional number of begas stated in the last column of the inclosed report might probably be brought into cultivation.

Vide Abstract in page 181.

I have, &c.

Midnapore, 8th December 1792. G. DOWDESWELL, Acting Collector.

(From

(From the Collector of Beerbhoom, 11th November 1792.)

From the Collector of Beerbhoom, 11 Nov. 1792.

Gentlemen :—I was duly honoured by the receipt of your letter of the 17th of August last, transmitting me copy of letter to your Board from the Sub-Secretary to the Governor-General in Council, with an extract from the Board of Trade, containing certain questions relative to the sugars of these districts.

2d. The answers required could have been furnished in the course of a few days, as far as they respect Beerbhoom, where my information is complete and accurate; but in Bishenpoor causes have operated to prevent an early reply, which indeed I should have delayed some days longer, if I had not received your Secretary's letter of the 30th ultimo, urging a speedy answer. I accordingly submit it, premising that the statements, as far as they regard Bishenpoor, are not so correct as I could have wished to have made them.

Vide Abstract in page 181.

The first point is, "the number of begas of sugar-cane in these districts, "specifying the measure of the bega."

3d. In Berbhoom the malguzzary lands appropriated to this purpose amount to eleven thousand begas: four hundred of nankar and lackerage lands may be added, making 11,400 begas. In Bishenpoor the returns state 2,447 begas; but on these returns I have no reliance, as local observation induces me to suppose that the cultivation of sugar-cane is carried to a much greater extent than the quantity specified, and I presume that the proprietors of the soil, instead of making any actual inquiries on their own parts, have simply returned the abstract of their mofussil aumlah and renters on this subject. I am clearly of opinion, that one-third more of the number of begas stated may be safely added; and in consequence of this estimation I shall state the quantity in this division to be 3,263 begas, making in both districts 14,663 begas of eighty square covids to the bega.

Second, "the quantity of sugar annually produced in these districts, the "quantity annually consumed within the district, and the quantity exported, "and whither exported."

4th. Lands appropriated to the cultivation of the sugar-cane are of various qualities, distinguished into first, second, and third, agreeable to the quantity and quality they produce. One bega of the first land in Beerbhoom will yield four maunds twenty-six seers and eleven chittacks of soft sugar; one of the second sort will give three maunds ten seers; and one of the third sort two maunds thirteen seers five chittacks, making the produce of the three begas ten maunds and ten seers, or the average of one bega, three maunds sixteen seers eleven chittacks. In Bishenpore the quantity from one bega of the best land, agreeable to the weight of that district, will be three maunds thirty-five seers nine chittacks; from the second denomination two maunds twenty-eight seers one chittack; from the third denomination one maund thirty-seven seers ten and a half chittack, or the average of one bega two maunds thiry-three seers twelve chittacks. From this computation the average product from 14,663 begas will be 48,252 maunds thirty-six seers, calculated on the standard weight of these districts, which are for Bishenpoor seventy-two sicca-weight to the seer, and for Beerbhoom sixty sicca-weight to the seer, which, brought to the standard of eighty sicca-weight, reduces the product to Factory Maunds 37,596 33 15.

5th. The foregoing statement is calculated on the presumption that the whole of the product in goor is converted to the purpose of making sugar; this, however, is not the case. A large proportion is exported in its original state, a further considerable proportion is consumed by the inhabitants, and the remainder appropriated to the purpose of making sugar. From the best information I have been able to obtain, the proportions may be calculated as follows, *viz.*

Goor exported.....	one-quarter.
Do. home consumption	one-quarter.
Do. manufactured	one-half.

Making the estimate product of sugar in these districts F. Mds. 18,798 16 15; of which, on estimation, one-fourth, or Factory Maunds 4,699, are retained for

From the Collector of Beerbhoom, 11 Nov. 1792.

home consumption, and the remainder exported to all the surrounding districts, but chiefly to those situated near navigable rivers. The sugar of Raujehaut in Bishenpoor is esteemed the best by the natives, and bears a superior price; but since the demand for sugar has been so high, and that the Beerbhoom sugar in particular is so much estimated, the exportation has been almost entirely to Calcutta; and the same causes still existing, all the exports will be in that channel, and as a necessary consequence the consumption in the district will diminish, and more goor be manufactured into sugar.

Third, "to state whether the Collector would suggest any mode for "extending the cultivation of sugar, or whether he would leave it to suit "itself gradually to the actual demand."

6th. I am decidedly of opinion that the cultivation ought to be left to itself; any interference of Government creates jealousy in the minds of the natives, and will rather retard than extend the manufacture. Even now an idea had arisen, merely from the inquiries into the quantity of lands so applied, that a monopoly would be the consequence, and which was one of the reasons to delay my returns from Bishenpoor. Government has done every thing in the district that it could do. The Bulmoohtah pottah has secured to the ryott the just produce of his labour, and so long as the causes exist that create the demand for sugar, his assiduity will be in proportion. I trust the advantages to Beerbhoom will be permanent; and as the sugar of this district is superior to that produced in any other part of the world, I expect to see the cultivation much extended. Some damage was occasioned to the crops from the want of water in the beginning of June, as the tanks were dry from the preceding year's drought; but at present the cane is in the most flourishing state, and promises to be very productive.

Fourth, "to point out any existing causes which may tend to discourage "the cultivation of sugar."

7th. I am happy to say, that I know of none in these districts.

I am, &c.

Beerbhoom, 11th November 1792. C. KEATING, Collector.

(From the Collector of Hidgellie, with Enclosures, 7th November 1792.)

From the Collector of Hidgellie, 7 Nov. 1792. *Vide Abstract in page* 181.

Gentlemen:—Having called upon the agents of the divisions of Hidgellie and Tumlook, in consequence of your Acting Secretary's letter and enclosures of the 17th August last respecting sugar, I have the pleasure to transmit to you herewith copies of their letters in reply thereto.

I have, &c.

Salt Office, 7th November 1792. B. GRINDALL, Collector.

(Enclosure.—From the Agent at Tumlook.)

From the Agent at Tumlook, 7 Sept. 1792.

Sir:—I have to acknowledge the receipt of your letter of the 24th ultimo with its enclosures, in reply to which I beg leave to lay before you, for the information of the Board of Revenue, the following answers to the questions of the Board of Trade.

1st. In the districts under my charge there are only three begas of sugar-cane cultivated: the size of a bega is computed at forty square yards.

2d. There is no sugar made in these districts, the produce of the small quantity of land that cultivates sugar-cane being generally eat by the natives, without any further preparation. The quantity consumed is calculated to amount to about six hundred maunds per annum; there is none exported.

3d. The soil of these districts, from their being so low situated, would, I imagine, prevent any mode being suggested to extend the cultivation of sugar-cane.

4th. From the situation being so low, and so much impregnated with salt, I am informed sugar could not be cultivated so as to produce any profit to the ryott equal to the paddy crop.

I am, &c.

WILLIAM DENT, Agent, Tumlook division.

Tumlook, 7th September 1792.

(Enclosure.

(Enclosure.—From Agent at Contai.)

From the Agent at Contai, 10 Oct. 1792.

Sir:—I do myself the pleasure of replying to the enclosure in your letter of the 24th August, and to forward you a statement of the lands on which sugar-cane is produced in the Hidgellee districts, and in the four pergunnahs of Jellasore.

2d. The soil of this division is so unfavourable to the growth of the sugar-cane, that I do not see any probable means of extending the cultivation of sugar with any prospect of advantage, for was a greater quantity of land to be brought into cultivation for this purpose, the cane would not be improved; arising, I imagine, from the effect the sea air has upon it. I should, therefore, imagine it would be best to leave it to suit itself gradually to the actual demand, as there is no manufacture of sugar within the limits of this division. The only circumstance that strikes me is, that the demand for the finer sort of gour (jaggree) in the Sudder districts being required for the manufacture of sugar, the very coarse, black sort of gour that is manufactured in a small quantity in the four pergunnahs of Jellassore, may possibly come into demand, for mixing with the chunam used in erecting buildings; and whenever this is found to be the case, it will induce the ryotts to turn their endeavours towards obtaining from their lands a greater supply of it.

3d. I have received your letter of the 1st instant, with its enclosures, on the above subject, and shall take care to prevent, as much as in my power, any imposition on the ryotts, respecting their sugar-cane lands.

I am, &c.

W. N. W. Hewitt, Agent, Hidgellie Division.

Contai, 10th October 1792.

(From the Collector of Calcutta, 21st October 1792.)

From the Collector of Calcutta, 21 Oct. 1792.

Gentlemen:—My late absence from Calcutta on account of indisposition, and the severity of that indisposition for some time prior to my absence, will, I hope, plead my excuse for not having till now replied to the questions of the Board of Trade on the cultivation of sugar, enclosed in your Secretary's letter of the 17th August.

1st. From my inquiries I do not find that more than 120 begahs, of 1,600 square yards each, are appropriated to sugar-cane in Punchawungong. Of this quantity only one-half is in actual cultivation for any one year, because the sugar-cane ryotts make it an invariable rule in Punchawungong not to plant sugar-cane two years successively on the same land.

Vide Abstract in page 182.

2d. No sugar-cane produced in Punchawungong is applied to the manufactures of sugar. The produce is exclusively confined to the demand of the Calcutta markets, for eating in its original state. As the same reports have been required from the Custom-master, the information of the Calcutta Custom-master on this point (the quantity usually consumed within the district) will be more satisfactory than any which I could collect from the retails of the bazars, or from any other mode of ascertainment. As no sugar is manufactured in the district, the difference between the imports and exports of the Calcutta Custom-House will give with sufficient precision the local consumption; the quantity exported and whither exported can be ascertained by the Custom-master alone.

The Custom-House Reports are not copied, being obscure, and for short periods only.

3d. The extent of cultivation, whether of sugar or of any other article, should be left to suit itself to the actual demand; any mode, by premium or otherwise, can only operate to create a temporary excess in the cultivation, to the certain loss of the speculator, as soon as the premium, or whatever else may have forced the extended cultivation, shall cease. It will, however, be proper to observe, that there is no probability, from the nature of this district, of any sugar-cane being manufactured into sugar. The great demand for raw canes in the Calcutta market is much beyond the produce of Punchawungong: large supplies are brought from the twenty-four Pergunnahs and Kishennagur. Nor is it an unjustifiable presumption that, if more land were capable of producing sugar-cane, more would long since have been appropriated to that culture, without any reference to its manufacture into sugar. The profit on sugar-canes sold for immediate eating is sufficient to tempt every ryott to plant sugar-cane whose land can

From the Collector of Calcutta. 21 Oct. 1792.

can possibly be made fit for that culture. The enclosed comparative statement of the profit on ten begahs of sugar-cane, one-half sold in canes and the other manufactured into goor, will exemplify the impracticability of creating, by any mode of temptation, a manufacture of sugar from canes the produce of the district.

4th. The excess of profit in the sale of raw canes, beyond what can be derived from the manufacture of the same canes into goor, which is fully exemplified in the enclosure mentioned in the former paragraph, is an unsurmountable discouragement to the appropriation of those canes to the production of sugar in this district. But as sugar is not made from sugar-cane exclusively, the causes which may operate against its production from other substances capable of producing it should be considered in this place; as such, the abcarry tax of 25 per cent. on all toddy trees indiscriminately cannot escape your notice. The only goor which would be made in Punchawungong is that derived from the juice of the date tree. Large quantities of the same goor are imported from the Twenty-four Pergunnahs and the eastern provinces. The practice of the natives and the experiments of Europeans have proved that this date-tree goor yields a granulation and a spirit scarcely distinguishable from the sugar and rum of the best sugar-canes. Should an increase in the actual demand, or any mode of encouragement adopted, extend the manufacture of sugar in the neighbourhood of Calcutta or in the eastern provinces, the chief supply of materials must depend on an increased plantation of date-trees; but while the existing and all future trees remain subject to a tax of 25 per cent. on their annual rent, such tax must unavoidably operate as a discouragement. The appropriation of the toddy juice in its crude state is of course limited by the population of a few surrounding miles from the nature itself of the liquor, whose early fermentation admits not of any length of preservation or distance of transportation. The extent of manufacture of its inspissated juice, when freed from a prohibitory tax, can know no other limitation, in even the most distant markets, than the extent of the demand and the expense of transportation.

I am, &c.

Calcutta Cutcherry, 21st Oct. 1792. E. COLEBROOKE, Collector.

ESTIMATE of the expense of cultivating five begahs of land in sugar-cane, and of the produce of the crop sold in raw canes in the Calcutta market.

		Rs.	A.
Rent of five begahs at the average rate of the district		15	0
15 cawns of plant at 1 5 per cawn		19	11
Oil-cakes 6 10 at 8 annas per maund		3	2
Expense of ploughing 2 annas per plough, 5 ploughs 10 days		6	4
Original setting the cane-tops in a nursery-bed to shoot roots, 45 working days			
Removing the cane-tops to a second nursery bed	20		
Watering the nursery beds	10		
Transplanting the shoots into the cane-fields	50		
Watering the transplanted shoots in the cane-fields	40		
Clearing the roots of the plants and trenching between the rows	50		
Stripping the dead leaves from the plants and weeding	60		
Binding together the canes at a certain period of their growth,	100		
Cutting the canes	240		
	615		
At 10 per Rupee,		61	8
Expense of cultivation,		105	9
The produce of one bega of cane varies according to the season and the soil; it will sometimes exceed fifteen cawns, and never is less than twelve and a-half cawns. The average rate of marketable canes in the Calcutta bazars, is half a pun per cane; taking, therefore, the lowest produce sixty-two and a-half cawns for five begas, at the above average rate, the value of the canes sold for eating is		625	0
Nett profit by the sale of the canes in their raw state for eating		619	7

ESTIMATE

ESTIMATE of the expense of manufacturing into goor the canes produced from five begas of land, and of the produce of the crop sold in goor in the Calcutta market. From the Collector of Calcutta, 21 Oct. 1792.

	Rs.	A.
Expense of cultivation as on the other side,.....	105	9
One mill equal towork the produce of five begas, costs Rs. 2 8, will last at least six years; its expense for one year	0	6⅔
The fire-place, and pots for boiling the juice produced by the mill from five begas, will last only one year, and cost	0	12
Eight men to work the mill and attend the boiling, will require forty days to manufacture the produce of five begas, at Rs. 4½ per month for each man	48	0
Pots sufficient for the conveyance to market of the goor produced from five begas of cane	6	14
Expense of manufacturing	161	9⅔
Five begas of good cane will, by the above process, render fifty-five maunds of the best goor. A larger quantity of the inferior sort might be realized from the same operation; but the inferiority of its price would bring its money produce to the same standard.		
Fifty-five maunds at the medium price of former years 3½ Rupees per maund will give	192	8
Nett profit on the manufacture of the canes into sugar	30	14⅓

(From the Collector of Chittagong, 31st of August 1792.

Gentlemen:—I have been honoured with a letter, under date the 17th instant, enclosing copy of a letter from the Sub-Secretary to the Public Department, with extract of a letter from the Board of Trade, dated 7th August 1792, requiring from the Collectors information on several points respecting sugar. From the Collector of Chittagong, 31 Aug. 1792.

In reply to these several queries, I have to acquaint you, that the sugar-cane in this province is of such an inferior quality, and the atmosphere in general so very damp, as to put it out of the power of the natives in this country to make sugar. The only produce from the sugar-cane of this place is a coarse kind of goor, which is consumed by the confectioners and tobacconists, and used also as a cement by the bricklayers. *Vide Abstract in page* 181.

I am, &c.

Islamabad, 31st August 1792. S. BIRD, Collector.

(From the Collector of Sylhet, 30th September 1792.)

Gentlemen:—I have the pleasure to submit the information I have been able to obtain, relative to the growth and manufacture of sugar, required in your Secretary's letter of the 17th ultimo. From the Collector of Sylhet, 30 Sept. 1792.

Respecting the first query, the quantity of sugar-cane as taken at the hustabood, was 1,975 kears, to which may be added 600 kears, on account of turruff, &c. since annexed, making in the whole 2,575 kears of sixty-four square cubits each.

Second query. There is no sugar made in the Sylhet district, the cane being either used as an article of provision in its raw state, or made into goor for the same purpose. A small quantity of this latter article is annually exported to Dacca, but the quantity is too trifling to deserve mentioning. *Vide Abstract in page* 181.

Third and fourth queries. Should it be the wish of Government to introduce the manufacture of sugar into the Sylhet district, it will be proper that two or three natives versed in the method of boiling down the juice of the cane be sent from the districts where sugar is made, for the purpose of instructing the Sylhet inhabitants in the manufacture. At present, the expressed juice of the cane is solely manufactured into goor. After the method of making is once acquired, the right of taking the sugar to the nearest market (which I believe would be Dacca), free of taxes and vexatious stoppages, will gradually occasion the manufacture to suit itself to the actual demand; and as this liberty exists in

From the Collector of Sylhet, 30 Sept. 1792.

its fullest extent in consequence of the abolition of the Sayer Revenue, I do not know of any cause that may tend to obstruct the cultivation of the cane, provided the manufacture of sugar were once established in the district. Perhaps in a district so remote from every place of public sale as Sylhet, it might tend considerably towards promoting the introduction of the sugar manufacture, if the Collector were authorized for a limited time to receive any sugar of a certain quality that might be tendered to him, at a fixed price sufficiently favourable to the manufacturer, to enable him to surmount the expenses and difficulties he would have to encounter on the establishment of a new manufacture.

I am, &c.

Sylhet, 30th September 1792. J. WILLES, Collector.

(From the Collector of Purnea, 12th September 1792.)

From the Collector of Purnea, 12 Sept. 1792.

Gentlemen:—I received your Secretary's letter of the 17th August last, requiring information on the sugar grown in this district.

From the best information that the nature of the subject admits of, the quantity of land in cultivation for sugar is estimated at 26,500 begahs, reduced to the standard of a begah of 6 cubits to the cottah, which contains 3,600 square yards. A considerable part of this cultivation is of an inferior sort of sugar cane, of which the jagry is so poor, that it does not yield sugar sufficient to pay the expense of manufacture: for which reason, the whole of this jagry is consumed on the spot without any further preparation. Of the best sort of sugar-cane little is cultivated; and the produce is retailed in the cane, the growers finding that mode of disposing of it more advantageous than carrying it to the mill.

What sugar is made, is from a middling sort of cane, of which the cultivation is reckoned at 14,000 begahs; from which 143,000 maunds of jagry are produced. From this quantity, 21,500 maunds of sugar might be obtained, but the quantity of cheenee actually made does not exceed 400 maunds of 80 sicca weight, the greater part of the jagry being consumed in its raw state, or only passing through the first process to separate the syrup from the chooa.

Vide Abstract in page 181.

No manufactured sugar is exported from Purnea; but, on the contrary, cheenee is imported from Benares, Patna, and Dinagepoor, and the only exportation from Purnea is about 10,000 maunds of jagry, exported from the eastern district into Dinagepoor, and nearly as much is imported from other districts into Purnea.

As the sugar of Purnea is esteemed to be of an excellent quality, it seems surprising that the cultivation should be so inconsiderable, as not to exceed the local consumption; the rather since, in the pergunnahs which contain most land fit for this cultivation, the sugar-cane pays no higher rent than any other article. But the best sort of sugar-cane requires a very rich soil, and most of the lands of that description are appropriated to garden culture, and to the growth of tobacco and other articles which also require rich soils.

There is no deficiency of land fit for sugar-cane of the second sort; but the produce is so small in proportion to the first expense, added to that of cultivation, that the cultivator is not reimbursed in the first year, and does not gain his profit until the end of the second year. The ryotts, therefore, prefer the cultivation of articles which yield an early profit.

At the price which jagry commonly bears, a sugar-maker can hardly earn a subsistence, by making sugar according to the process followed in Purnea, notwithstanding that his sugar fetches on the spot a higher price than imported sugar. If an increased demand should raise the price, with a probability of its permanency, there can be no doubt but that the cultivation will be extended in proportion to the demand, and Purnea might in two years be able to export a considerable quantity of sugar. But should the medium price of sugar not exceed what it has hitherto sold for, I do not conceive that any measures can be proposed which would promote the cultivation. At present the sugar of Purnea is under-sold on the spot by sugar from other districts, and the growth is only sufficient for the local consumption of sugar-cane and jagry. If the medium price at other markets were high enough to afford a profit on sugar exported from this district, no other encouragement would be necessary to extend

extend the cultivation, I should therefore recommend to leave it to suit itself to the demand. I have, &c.

Purnea, 12th September 1792. S. HEATLY, Collector.

From the Collector of Purnea, 12 Sept, 1792.

(From the Collector of the Twenty-four Pergunnahs, 13th October 1792.)

Gentlemen :—In obedience to your orders of the 17th August last, I have the honour to transmit you enclosed, for the information of the Board of Trade, an account, stating the number of begahs of sugar-cane in cultivation in the different pergunnahs of this district, with the size in English yards of the begah, agreeable to the standard fixed in each pergunnah.

From the Collector of the Twenty-four Pergunnahs, 13th Oct. 1792.

In reply to their 2d, 3d, and 4th questions, I beg leave to observe that no sugar is produced in the Twenty-four Pergunnahs, the quantity of cane which is cultivated being either exported in the state in which it is cut to the town of Calcutta, or manufactured into molasses, and those molasses or jagry are consumed by the distillers of spirituous liquors.

From every information I have been able to obtain, the juice of the cane in this district is, I understand, too poor and vapid for the purpose of manufacturing into sugar. The cane is small, by no means equally productive with that which is cultivated in the higher districts of Bengal, and as it contains when expressed a saline quality, it will, I conceive, be of little avail towards promoting the object set forth by the Board of Trade, to extend the cultivation of the sugar-cane in these pergunnahs.

Vide Abstract in page 181.

I have, &c,

Zillah 24 Pergunnahs, 13th October 1792. J. CHAMPAIN, Collector.

ORDERED, by the Governor-General in Council,

That copies of the several above-written Reports made by the Collectors, relative to the cultivation of sugar, be sent to the Board of Trade.

ABSTRACT

Abstract Statement of sugar cultivation in Bengal, 1792.

ABSTRACT STATEMENT formed from the Replies of the Collectors of the undermentioned Districts to the Inquiries made by the Board of Trade, in their Letter of the 7th August, 1792, to the Governor General in Council, shewing the Quantity of Land estimated to be cultivated with Sugar-cane, the Produce of the Sugar and Goor in each District, the Quantity of these Articles consumed in each, and exported.

(Note.—The different Begas stated in the Reports are reduced to the standard Bega, 1,600 square yards, as in Rennel's Maps.)

Districts.	Quantity of land cultivated reduced to the standard of a Bega of 1,600 square yards.	Produce.		Consumption.		Exported.		Extracts from the Collectors' Replies.
		Sugar. Mds.	Goor. Mds.	Sugar. Mds.	Goor. Mds.	Sugar. Mds.	Goor. Mds.	
Sircar Sarun ..	15,318	5,786	24,063	1,786	12,433	4,000	11,630	The goor of this district is so miserably poor, it will not yield sugar either in quality or quantity sufficient to defray the expenses. It is used in the mixture of tobacco and distillation of spirituous liquors. Is of opinion the increase of cultivation will suit itself to the demand for sugar, without any assistance from Government.
Tirhoot	4,500	—	10,000	—	7,000	—	3,000	No sugar is made in this district owing to the poorness of the juice. The sugar consumed is all imported (about nine thousand maunds) from Benares, Patna, &c. Thinks an increased cultivation of the cane will take place as the demand increases, without any further encouragement being necessary.
Shawabad	2,923	—	17,758	—	8,879	—	8,879	No sugar is made in this district, which is attributed to the poverty of a sandy soil: the produce is considered as overrated. Many proprietors of land in this district have offered to double the quantity of their land now in cultivation of the sugar-cane, if they could be assisted with advances, and is of opinion if that mode was generally adopted, it would be attended with the most beneficial consequences.
Dacca ..... (Answered by Head-Assistant).	15,625	—	—	—	—	—	—	No estimate is made of the produce of goor, nor the consumption or exportation stated. No sugar is made in the district from the poverty of the juice. The quantity consumed is computed at no more than fifty maunds. Is of opinion the increased demand for sugar is sufficient encouragement for an increased cultivation.
Jessore	3,579	—	8,747	—	8,747	—	—	About one thousand maunds of this quantity of goor is made into sugar for internal consumption. Considerable quantities of sugar are produced in this district from the date tree, both for exportation and consumption, but the quantity is not stated. Is of opinion the cultivation of the cane will increase with the demand, and thinks advances to the riots would be very conducive to such increase.
Dinagepo re ..	20,101	15,422	—	3,855	—	11,567	—	Is of opinion the cultivation of the sugar-cane will increase with the demand.
Ramghur	2,352	—	13,200	—	13,200	—	—	No sugar is made in this district, owing to the badness of the soil and difficulty of procuring water. The produce of goor is not equal to the consumption. The whole of the sugar consumed is imported from Benares, Patna, &c. Conceives the very increased demand for sugar a sufficient inducement to an increased cultivation of the cane.

Moorshedabad	4,276	—	—	—	—	—	—
Burdwan	25,000	45,875	187,500	—	187,500	45,875	—
Midnapore	3,501	28,644	—	12,837	—	15,807	—
Beerbhoom....	14,663	18,798	*Vide observation opposite.*	4,699	—	14,099	—
Tumlook	3	—	—	—	—	—	—
Hidgellee	8	—	—	—	—	—	—
24 Pergunnahs	866	—	—	—	—	—	—
Chittagong	—	—	—	—	—	—	—
Sylhet	1,809	—	—	—	—	—	—
Purnea.....	26,500	—	143,000	—	14,000	—	10,000
Carried over ..	1,41,024	1,41,525	4,04,268				

Not above one hundred maunds of sugar is stated to be manufactured in the district, and that for the use of the city. The quantity of goor produced, is not mentioned but the whole is stated to be consumed. The nature of the land in the district, which is stated as ill adapted to the growth of cane, offers little encouragement for an increased cultivation.

Till within these three years little sugar was manufactured in the district; the exportation, which is estimated at half the produce, was made in goor. The great demand latterly for sugar for the Europe market caused the goor to be manufactured, and in consequence altered the nature of the export. Is clearly of opinion the culture of the sugar-cane might be very considerably increased in his district; but states, that unless Government were timely to signify their intention to receive the product beyond the consumption, it might be injurious to the ryotts to hold forth any particular encouragement for a greater cultivation than the actual demand requires.

Is of opinion the cultivation of the sugar-cane in his district can only be increased by the encouragement of advances to the ryotts, in which case one thousand twenty-eight begas might be added to the present estimate.

It is to be observed that this quantity is only half the estimated produce; the remaining half is supposed to remain in goor, of which one half is exported, the remainder consumed. No data being assumed of the number of maunds of goor to a maund of sugar, the quantity cannot be stated. It is expected that the cultivation in this district will considerably increase. The Collector is of opinion any interference of Government would rather tend to retard than advance it. From the great demand at present for sugar, it is supposed the quantity of goor manufactured will be much increased.

The small quantity of sugar-cane grown in this district is eaten raw by the natives; the sugar consumed is imported, about six thousand maunds. The soil of this division being so low, it is conceived no increased cultivation of the sugar-cane can be effected.

The same observation is made in this district as above, and further, that the land is not calculated to produce the cane. The soil of this district being unfavourable to the growth of the sugar-cane, it is conceived no mode can be adopted, with any advantage, that will tend to an increased cultivation.

No sugar is produced in this district. The cane is mostly exported to the Calcutta market, to be eaten raw; the small quantity of goor produced is so very poor, that it is consumed only by the distillers of spirituous liquors, for which reason the Collector conceives it would be of little avail to extend the cultivation.

The small quantity of cane grown in this province, which is of a very inferior kind, is made into goor, which is used by the tobacconists and builders. The damp atmosphere of the district is stated as inimical to the produce of sugar, and of course to an increased cultivation.

No sugar is made in this district: the natives are ignorant of the mode of manufacturing it. The cane is partly eaten raw. What goor is produced is consumed in the district, but no quantity is stated. The Collector is of opinion, the manufacture of sugar might be easily introduced into his district, and the cultivation of the cane considerably increased, by the assistance of advances to the ryotts.

This quantity is the estimated produce of fourteen thousand begahs of what is termed a middling sort of cane; the produce of the remainder of the land is made into a thin poor goor, which is consumed on the spot, but no quantity stated. About four hundred maunds of sugar is stated to be manufactured, and a quantity to be imported for internal consumption from Benares, &c. The process

Abstract Statement of Sugar Cultivation in Bengal 1792.

Districts.	Quantity of land cultivated reduced to the standard of a Begah of 1,600 square yards.	Produce. Sugar. Mds.	Produce. Goor Mds.	Consumption. Sugar Mds.	Consumption. Goor Mds.	Exported. Sugar Mds.	Exported. Goor Mds.	Extracts from the Collectors' Replies.
Brought over ..	1,41,024	1,14,525	4,04,268					of making sugar in this district is so expensive, it affords little encouragement to the manufacture; but if the price of sugar rises with the demand, has no doubt but there will be a considerable increase in the cultivation of the cane.
Calcutta	60	—	—	—	—	—	—	The whole of the sugar-cane in this district is stated to be disposed of in the Calcutta market to be eaten raw. Some goor is mentioned to be produced from the date-tree in this district, but no quantity stated. The canes produced in this district are of so poor a quality, that the making the juice of them into sugar, bears, in respect to profit, no comparison whatever with the advantage of selling them in their raw state. This is considered as an insurmountable obstacle to an increased cultivation for the purpose of manufacture.
Rungpore	6,511	—	23,257	—	—	—	—	Exclusive of this produce, large quantities of goor and sugar are imported into this district. The consumption is stated as very large; the exportation in sugar about 2,797 maunds, and in goor about 5,761 maunds. This district will certainly admit of a very increased cultivation of the cane; and is of opinion the demand for sugar is a sufficient encouragement, without any aid from Government.
Tipperah.....	3,260	—	9,107	—	6,424	—	2,683	No sugar is manufactured in this district; the cane throughout is of a very inferior quality, owing to the poorness of the soil. The Collector gives no opinion respecting the possibility or probability of increased cultivation.
Bhaugulpore ..	8,877	—	39,192	—	21,192	—	10,000	Sugar for internal consumption is stated to be imported into the district, but no mention is made of any being manufactured. Is of opinion the cultivation will suit itself to the demand; if that continues, it will of course be increased.
Total	1,59,732	1,14,525	4,75,824					
Nuddea	—		—	—	—	—	—	No report can at present be made of the quantity of land now in cultivation of the sugar-cane in this district. The Collector is of opinion, that the only mode of encouraging an increased cultivation of the cane is, by assisting the ryotts with advances.
Mymunsing....	—		—	—	—	—	—	Cannot at present report on the quantity of land in cultivation of the sugar-cane in his district, but is of opinion the nature of the country and soil are very inimical to an increased cultivation.

Benares. Report not received; but see it in the next page.
Behar. Report promised: but cannot be traced on the Records.
Rajeshye. Report not received.

Board of Trade,
1st April 1793.

LETTER from the Resident at Benares to the Governor General, in Council, 20th April 1793.

From the Political Resident at Benares, 20th April 1793.

1. My Lord:—I have now the honour to submit, for the information of your Lordship in Council, the result of an investigation into sundry points, respecting sugar, in consequence of instructions received to that effect from John Rawlins, Esq., Acting Secretary to the Board of Revenue, under date the 17th August last.

2. Since the receipt of those instructions, every possible exertion has been used here to collect the necessary documents from the moffussil, and to arrange such of the accounts of the custom-houses of Benares, Ghazeepoor, Jaunpoor and Mirzapoor, as related to the subject. But in this province, where the cultivation of the cane is so very extensive, and where exports in sugar are so great, I hope your Lordship will be disposed to allow, that a clear report thereof (so as to afford Government such information as might be deemed satisfactory) must necessarily have required no inconsiderable portion of time. I shall therefore only add, that I beg leave to assure your Lordship, the delay which has taken place has, notwithstanding every exertion on my part, been unavoidable.

3. I shall now proceed, in the first place, to state the extent of the cultivation of the cane in this zemindarry.

4. Formerly the size of the bigah varied in almost every pergunnah, and the various measures which were used, afforded an easy opening to the amils for the commission of sundry oppressions on the ryotts. But in 1196 fusilly, or 1788-89, the present Resident established a common standard of measurement for the whole country: a regulation which has been productive of the most beneficial consequences.

N.B. 20 *Biswansus make* 1 *Biswah*; 20 *Biswahs make* 1 *Begeh.*

5. The length of the begah thus established consists of twenty poles, each measuring 8 ft. 4 in. 8-10ths., the whole length is then 168 feet. The surface, or 168 feet, multiplied by itself, comes to 28,224 feet square, or 3,136 square yards. The biswah, or 20th part, is then 156 square yards and 8-10ths. These are the dimensions of each bigah specified in the following statements.

6. Instead of detailing the cultivation of 1199 fussily, 1791-92, or a single year, I deemed it expedient (in order to afford a more comprehensive view of the subject,) to procure from the moffusil the whole of the bigahbundy accounts relative thereto, from the beginning of 1195 to the conclusion of 1199 fussily (or from 1787-88 to 1791-92), comprehending a period of five years.

7. These bigahbundy accounts are, as may be easily imagined, exceedingly voluminous. To have translated all the particulars would have taken up many months, but the result of the whole will be particularly stated in this address and in the accompanying documents. The moffusil statements have been collected with the utmost care and attention, and sedulously collated and compared with the respective records of the Canongoes and Putwaries of each pergunnah: hence their accuracy may, I believe, be safely depended upon.

8. To render the inquiry as complete as possible, it was deemed absolutely necessary, that accounts similar to those received from the pergunnahs immediately under the controul of Government should also be procured, and for the same period of time, from all the Jagueerdars, and from the possessors of Maáfie and Çrishnar-pun lands in this zemindarry. In obtaining correct statements from this quarter, I experienced much delay, and no inconsiderable degree of difficulty. Some of those primarily delivered in were so obviously mutilated, so purposely confused, and rendered so intentionally imperfect, that I was frequently obliged to return them to the several parties, and to insist particularly upon their giving them in, with the same accuracy as those procured from the other districts. The disinclination manifested on this occasion I can only attribute to that jealousy, which is usually created in the minds of most of the Jagueerdars &c. upon the slightest interference on the part of Government.

9. The account No. 1. exhibits the extent of the annual cultivation for the last five years (exclusive of jagueers, free lands, &c.), and the abstract of which is as follows:

These Abtracts being full and clear, the accounts at large are not printed.

	Bigahs.		
In 1195 fusilly, or 1787-1788	55,336	18	10
1196 ... do. ... 1788-1789	58,020	17	10
1197 ... do. ... 1789-1790	63,791	10	0
1198 ... do. ... 1790-1791	63,447	5	0
1199 ... do. ... 1791-1792	65,963	5	5
Bigahs	306,559	16	5

From the Political Resident at Benares, 20th April 1793.

10. The account No. 1 also states the annual rental of the cane plantations for the same period of time, and as a knowledge thereof may be satisfactory to Government, I take the the liberty of submitting an abstract of the same as follows, *viz.*

	Rupees	A.	P.
In 1195 or 1787-1788	2,54,423	5	6
1196 ... 1788-1789	2,67,554	2	0
1197 ... 1789-1790	2,90,720	2	9
1198 ... 1790-1791	2,86,388	14	0
1199 ... 1791-1792	2,90,474	7	0
Rupees	13,89,560	15	3

11. Thus it appears, that although a very severe drought (which was exceedingly detrimental to the cultivation of the cane) prevailed to a degree that threatened a famine in this province, in the years 1788-89 and 1790-91, yet the increase from 1787-88 (the period of Mr. Duncan's taking charge of this residency) to the end of 1791-92, amounts to bigahs 10,626 6 15. So great an increase could only have been effected by the many happy and beneficial consequences which resulted from Mr. Duncan's indefatigable exertions in the general management of the country, and from zeal, ability and integrity, which on every occasion so eminently distinguished all his measures and regulations for the prosperity of the province and its numerous inhabitants; a truth which is not more universally felt than acknowledged by all of them.

12. The account No. 2 specifies the annual extent of the cultivation of the cane in the possession of the Jagueerdars in this zemindarry, from 1195 or 1787-88 to 1199 or 1791-92, inclusively, *viz.*

		Extent.				Rental.		
In 1195, or 1787-1788	... Bigahs	9,098	4	0	... Rupees	47,368	11	0
1196 ... 1788-1789	.....	10,278	3	15	.....	52,278	11	3
1197 ... 1789-1790	.....	12,000	4	0	.....	60,484	12	9
1198 ... 1790-1791	.....	11,995	18	15	.....	62,789	13	6
1199 ... 1791-1792	.....	10,424	7	15	.....	52,944	3	9
	Bigahs	53,796	18	5	Rupees	2,75,866	4	3

13. I shall now proceed to state the annual cultivation since 1787-88, in Crishnar-pun lands (vide account No. 3), as follows: *viz.*

In 1195, or 1787-1788	... Bigahs	1,199	12	5	... Rupees	4,174	1	9
1196 ... 1788-1789	.....	1,167	4	10	.....	4,131	8	3
1197 ... 1789-1790	.....	1,253	11	5	.....	4,443	8	6
1198 ... 1790-1791	.....	1,274	13	15	.....	4,460	12	3
1199 ... 1791-1792	.....	1,332	6	0	.....	4,763	5	3
	Bigahs	6,227	7	15	Rupees	21,973	4	0

14. Statement No. 4 exhibits the cultivation in the Canongoe villages, during the above period: *viz.*

In 1195, or 1787-1788	..... Bigahs	648	2	5	... Rupees	2.520	3	3
1196 ... 1788-1789	.....	664	17	0	.....	2,573	6	6
1197 ... 1789-1790	.....	709	6	0	.....	2,806	9	9
1198 ... 1790-1791	.....	702	1	15	.....	2,729	10	0
1199 ... 1791-1792	.....	796	16	15	.....	2,975	2	3
	Bigahs	3,521	3	15	Rupees	13,604	15	9

15. The specification of the annual cultivation in the Maáfie, or free lands, is contained in account No. 5: *viz.*

In 1195, or 1787-1788	... Bigahs	1,336	6	10	... Rupees	4,848	5	6
1196 ... 1788-1789	.....	1,340	11	10	.....	4,913	6	0
1197 ... 1789-1790	.....	1,407	4	0	.....	5,194	11	0
1198 ... 1790-1791	.....	1,436	1	5	.....	5,301	1	6
1199 ... 1791-1792	.....	1,475	9	0	.....	5,390	9	6
	Bigahs	6,995	12	5	Rupees	25,718	1	6

16. Account No. 6 specifies the cultivation in the Motuffurákáat, or detached villages, since the year 1195 fussily, or 1787-88, *viz.*

In 1195, or 1787-1788	..... Bigahs	173	18	0	... Rupees	1,075	12	9
1196 ... 1788-1789	.....	177	3	0	.....	1,112	14	9
1197 ... 1789-1790	.....	195	5	0	.....	1,178	8	3

(continued)

(Continued.)

1198, or 1790-1791	Bigahs	175	19	0	..... Rupees	1,112	4	9	From the Political Resident at Benares 20th April 1793.
1199 ... 1791-1792		173	11	0	.....	1,107	13	6	
	Bigahs...	895	16	0	Rupees...	5,587	6	0	

17. Having submitted these several abstracts for your Lordship's inspection, I shall now exhibit a general one of the whole, from Account No. 7, *viz.*

	Bigahs.				Rupees.	A.	P.
1st. Extent of the cultivation in the pergunnahs under the immediate controul and management of Government, for five years, or from 1195, or 1787-88, to the end of 1199, or 1791-92.....	3,06,559	16	5	...	13,89,560	15	3
2d. Do. of do. in the Motuffurakaat, or detached villages, do. do. do.....	895	0	0	...	5,587	6	0
Total extent of sugar-cane lands in the pergunnahs and villages under the immediate management of Government (for the above period) .....Bigahs	3,07,455	12	5	...	13,95,148	5	3
3d. Do. of do. in Jagueers during the preceding five years	53,796	18	5	...	2,75,866	4	3
4th. Do. of do. in Crishnarpun lands, during do. do ...	6,227	7	15	...	21,973	4	0
5th. Do. of do. in Canongoe villages during do. do.....	3,521	3	15	...	13,604	15	9
6th. Do. of do. in Maafie, or free lands, during do. do....	6,995	12	5	...	25,718	1	6
	70,541	2	0	...	3,37,162	9	6
Bigahs...	3,77,996	14	5	Rs.	17,32,310	14	9

18. Thus it appears that the total number of bigahs cultivated in five years, amount to bigahs 3,77,996 14 5; and that the rental comes to rupees 17,32,310 14 9; so that the average number of bigahs for one year is bigahs 75,599 6 17.

19. It also appears, that of the total of bigahs 3,77,996 14 5 the amount of bigahs 3,07,455 12 5, were cultivated during the period before cited in the pergunnahs, &c. under the collection of this residency; and the remainder, or bigahs 70,541 2 0, in jagueers, Crishnapun, and Maafie lands, and in the villages of the Canongoes.

20. It may perhaps be proper to mention in this place, that the villages formerly allotted for the maintenance of the Canongoes have been resumed, and that from the beginning of the present fussily year their respective allowances have been paid in cash from the Moolkey treasury.

21. It appears from the accounts delivered in by the Canongoes, that the rye, or revenue rates of the cane-lands vary exceedingly; that is, from six annas to twenty-one rupees per bigah, according to the greater or less degree of excellence of the soil.

22. In the pergunnahs of Mereeahoo, Budhoe, Anglie, and Cuswâr, and in general in the districts near the city of Benares, the rates are very high, in consequence of the excellent quality of the land. But in order to exhibit an accurate idea of the medium rates, the following statements are now submitted.

23. The terms, chowmuss khalis, jerree, jownâr, and mootera, (which will be found in the accompanying accounts) shall be fully and particularly explained in a subsequent part of this address. It will be sufficient to observe, in this place, that chowmuss is applied to lands cultivated in the first degree, and which consequently produce the best canes; jerree to those in the second; and jownâr to those in the third, &c.

24. The extent of each class cultivated in the sirkar of Benares, from the beginning of 1195 to the end of 1199 fussily, being five years, is as follows, *viz.*

Chowmuss	Bigahs	27,516	11	0	..... Rupees	207,090	7	0
Jerree		3,582	15	0	.....	28,266	14	3
Jownar.....		15,328	16	5	.....	52,449	8	6
Mooteree		18,647	14	15	.....	65,034	2	9
	Bigahs	65,075	17	0	Rupees	3,52,841	0	6

From the Political Resident at Benares 20th April 1793.

Hence the average rye or rates of each class in the sirkar of Benares is as follows, *viz.*:—

		As.	G.	C.	
Chowmuss, average rate thereof	Rupees 7	8	8	1	per bigah.
Jerree..... ditto	7	14	5	3	
Jownar ..... ditto	3	6	15	0	
Mooteree..... ditto	3	7	14	1	

And that the average rate of the whole number of bigahs cultivated in this sirkar (being 65,075 17), comes to Rupees 5 6 15 per bigah.

25. Extent of each class cultivated in the sirkar of Chunar for the said period, *viz.*

Chowmuss	Bigahs	11,934	8	15	..... Rupees	57,393	3	9
Jerree.....		8,184	7	15	.....	38,448	7	0
Jownar		12,306	4	5	.....	41,641	11	0
Mooteree.....		8,083	9	15	.....	2,495	1	0
	Bigahs	33,308	10	10	Rupees	1,39,978	6	9

Average rates of each class in the sirkar of Chunar, *viz.*

Chowmuss, average rate thereof	Rupees 4	13	15	0	per bigah.
Jerree..... ditto	4	11	3	1	
Jownar ..... ditto	3	6	2	3	
Mooteree..... ditto	2	13	3	3	

And that of the total cultivation, or bigahs 33,308 10 10, comes to Rupees 4 3 4 3 per bigah.

26. Extent of each class cultivated in the sirkar of Ghazeepoor, during the said period, *viz.*

Chowmuss	Bigahs	74,251	5	5	..... Rupees	3,50,898	14	0
Jerree		14,538	14	0	.....	63,323	14	9
Jownar.....		45,316	14	15	.....	1,52,395	9	9
Mooteree		1,439	4	0	.....	4,739	2	9
	Bigahs	1,35,545	18	0	Rupees	5,71,357	9	3

Average rates of each class in the sirkar of Ghazeepoor, *viz.*

Chowmuss (average rate of)	Rupees 4	11	13	3	per bigah.
Jerree..... ditto	4	5	13	3	
Jownar ..... ditto	3	5	16	0	
Mooteree ..... ditto	3	4	10	2	

And that of the total cultivation, or bigahs 1,35,545 18, comes to Rupees 4 3 8 3½ per bigah.

27. Extent of each class cultivated in the sirkar of Juanpoor, during the preceding period, *viz.*

Chowmuss	Bigahs	12,667	2	10	..... Rupees	84,685	8	6
Jerree		10,167	11	10	.....	42,951	4	3
Jownar		65,877	2	0	.....	2,70,717	14	9
Mooteree		12,874	8	15	.....	49,786	7	0
	Bigahs	1,01,586	4	15	Rupees	4,48,141	2	6

Average rates of each class in the sirkar of Juanpoor, *viz.*

Chowmuss (average rate of)	Rupees 6	10	19	2	per bigah.
Jerree..... ditto	4	3	11	3	
Jownar ..... ditto	4	1	15	0	
Mooteree ..... ditto	3	13	10	0	

And that of the total cultivation, or bigahs 1,01,586 4 15, comes to Rupees 4 6 11 2 per bigah.

28. Extent of each class cultivated in the sirkar of Terhar, *viz.*

Chowmuss.....	Bigahs	11,149	12	0	..... Rupees	27,163	8	0
Jerree		—			.....	—		
Jownar.....		400	12	0	.....	1,987	11	9
Mooteree		—			.....	—		
	Bigahs	11,550	4	0	Rupees	29,151	3	9

Average rates of each class in the sirkar of Terhar, *viz.*

Chowmuss (average rate of)	Rupees 2	6	19	3	per bigah.
Jerree ..... ditto			—		
Jownar ..... ditto	4	15	7	3	
Mooteree ..... ditto			—		

And

From the Political Resident at Benares 20th April 1793.

And that of the total cultivation, or Bigahs 11,550 4, comes to Rupees 2 8 7 3 per bigah. There are only a few pergunnahs in this sirkar, *viz.* Chowrassie, Chahnoveh, Ouprowde-kone, and the talookah of Suktess Ghur.

29. Extent of each class cultivated in the pergunnah of Budhoee (not attached to any ot the other sirkars, and one-half of which constitutes Raja Mihipnarain's Jagueer).

Chowmuss	Bigahs	26,640	0	0	..... Rupees	175,340	0	0
Jerree		—			.....	—		
Jownar		2,640	0	0	.....	9,440	0	0
	Bigahs	29,280	0	0	Rupees	184,780	0	0

Average rate of each class, *viz.*

Chowmuss (average rate of)	Rupees	6	9	9	3 per bigah.
Jownar ..... ditto		3	9	4	0

And that of the total cultivation, or bigahs 29,280, comes to Rupees 6 4 19 2 per bigah.

30. Extent of each class cultivated in the pergunnah of Kera-Mungrowr (the Raja's ultumghah, and which is not attached to any sirkar).

Chowmuss	Bigahs	515	0	0	..... Rupees	2,349	0	0
Jerree		375	0	0	.....	1,320	0	0
Jownar		760	0	0	.....	2,392	8	0
	Bigahs	1,650	0	0	Rupees	6,061	8	0

Average rate of each class, *viz.*

Chowmuss (average rate of)	Rupees	4	10	12	0 per bigah.
Jerree		3	8	6	1½
Jownar		3	7	13	2½

And that of the total cultivation, or bigahs 1,650, comes to Rupees 3 10 15 2 per bigah.

31. Having stated these particulars, I shall now submit the total extent of each class cultivated throughout the zemindarry, during the period already mentioned, together with the medium rate of each in the several sirkars, &c. which will bring the above particulars into one connected point of view.

1st. Chowmuss.

Sirkar of Benares,	Bigahs	27,516	11	0	Average rate, Rupees	7	8	8	1 per bigah.
Sirkar of Chunar		11,934	8	15	.....ditto.....	4	13	15	0
Sirkar of Ghazeepoor ...		74,251	5	5	.....ditto.....	4	11	13	3
Sirkar of Juanpoor		12.667	2	10	.....ditto.....	6	10	19	2
Sirkar of Terhar		11,149	12	0	.....ditto.....	2	6	19	3
Budhoee		26,640	0	0	.....ditto.....	6	9	9	3
Kera Mungrowr.....		515	0	0	.....ditto.....	4	10	12	0
	Bigahs	1,64,673	19	10	Average rate, Rupees	5	7	18	2

2d. Jerree.

Sirkar of Benares,	Begahs	3,582	15	0	Average rate, Rupees	7	14	5	3 per bigah.
Sirkar of Chunar		8,184	7	15	.....ditto.....	4	11	3	1
Sirkar of Ghazeepoor ...		14,538	14	0	.....ditto.....	4	5	13	3
Sirkar of Juanpoor		10,167	14	10	.....ditto.....	4	3	11	3
Sirkar of Terhar		—						—	
Budhoee		—						—	
Kera-Mungrowr...		375	0	0	.....ditto.....	3	8	6	1½
	Bigahs	36,848	8	5	Average rate, Rupees	4	11	13	3

3d Jownar.

Sirkar of Benares,	Bigahs	15,328	16	5	Average rate, Rupees	3	6	15	0 per bigah.
Sirkar of Chunar		12,306	4	5	.....ditto.....	3	6	2	3
Sirkar of Ghazeepoor ...		45,316	14	15	.....ditto.....	3	5	16	0
Sirkar of Juanpoor		65.877	2	0	.....ditto.....	4	1	15	0
Sirkar of Terhar		400	12	0	.....ditto.....	4	15	7	3
Budhoee		2,640	0	0	.....ditto.....	3	9	4	0
Kera Mungrowr		760	0	0	.....ditto.....	3	7	13	2½
	Bigahs	1,42,629	9	5	Average rate, Rupees	3	11	11	1½

4th Mooteree.

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4th. Mooteree.

Sirkar of Benares,	Bigahs	18,647	14	15	Average rate, per Bigah	3	7	14	1
Sirkar of Chunar		883	9	15	..... ditto	2	13	3	3
Sirkar of Ghazeepoor.....		1,439	4	0	..... ditto	3	4	10	2
Sirkar of Juanpoor		12,874	8	15	..... ditto	3	13	10	0
Sirkar of Terhar		—						—	
Budhoee.....		—						—	
	Bigahs	33,844	17	5	Average rate, per Bigah	3	9	14	0

32. By the preceding statements it is shown, that the cultivation of the Chowmuss, or first class, has been the most extensive of any during the period in question, since it has amounted to bigahs 1,64,673 19 10, at the medium rate of Rs. 5 7 18 2 per bigah. They will also prove how very generally the culture of the cane is attended to throughout the whole province, and particularly in the large division of Ghazeepoor, where, during the preceding five years, that of Chowmuss only came to bigahs 74,251 5 5. The medium rate per bigah annexed to each particular class, and to the total number of bigahs cultivated in the several sirkars, &c., will in some degree enable Government to form a judgment of the various and relative qualities of the cane lands in the different divisions of this zemindarry.

Abstract of each class, and average rates per bigah.

1st. Chowmuss,	Bigah	1,64,673	19	10	Average rate, Rs.	5	7	18	2 per bigah.
2d. Jerree.....		36,848	8	5	.....	4	11	13	3
3d. Jownâr		1,42,629	9	5	.....	3	11	11	1½
4th. Mooteree.....		33,844	17	5	.....	3	9	14	0
	Bigahs ...	3,77,996	14	5					

Abstract of the total number of bigahs cultivated in each sirkar, &c. from 1787-8 to 1791-2 inclusive, with the average rate per bigah, *viz.*

1st. Budhoee	Bigahs	29,280	0	0	Average rate, Rs.	6	4	19	2 per bigah.
2d. Sirkar of Benares ...		65,075	17	0	.....	5	6	15	0
3d. Sirkar of Juanpoor ...		1,01,586	14	15	.....	4	6	11	2½
4th. Sirkar of Ghazeepoor...		1,35,545	18	0	.....	4	3	8	3½
5th. Sirkar of Chunar.....		33,308	10	10	.....	4	3	4	3
6th. Kera Mungrowr.....		1,650	0	0	.....	3	10	15	2
7th. Sirkar of Terhar		11,550	4	0	.....	2	8	7	3½
Total,	Bigahs	377,996	14	5					

33. Thus as the whole cultivation in five years has amounted to bigahs 3,77,996 14 5, the average rate per bigah comes to Rupees 4 9 6 2.

34. Before I proceed to state the imports and exports of sugar for the preceding five years, I think it may not be unacceptable to Government to submit in this place the particulars of the cultivation of the cane, &c. But no series of experiments having as yet been made in this district relative thereto, little more can be expected from this view than a mere detail of the present modes of managing it.

35. Chowmuss-khalis is applied to such land as is ploughed sixteen, twenty, or twenty-five times, from the month of Assâr or June to Koar or September, and in which no grain is sown for the khureeff, or autumnal harvest. In this state the land remains till the month of Poos, or December, when the ryott places a flock of sheep on the field, and keeps them there two, three, or four nights (according to his means, for they are hired from the gurroruahs or shepherds), for the sake of their manure, such manure being in this country deemed of singular efficacy to the growth and strength of the cane; after this the land is watered from tanks or wells, and when it is properly moistened the plough is run through it two or three times, and the cane is then planted, either in Maug, Phagun, or Cheyte (January, February, or March). Each begah generally takes twenty bundles of plant, and these cost from Rs. 1 4 to Rs. 3, in proportion to the strength and maturity of the cane. Each bundle contains 400 plants (or 8,000 to a bigah). These are usually taken from the nearest field, and after being steeped in some tank of water for a whole night, they are cut into pieces of fifteen or eighteen inches in length, containing from four to five eyes, and the plough being made to pass over the land in straight furrows, at about fifteen inches asunder, the plants are dropped into these furrows, leaving a distance of two feet between each plant, according to the caprice of the ryott, or more properly speaking, the customs of his fathers. They are then covered with earth, and immediately after which the field is levelled, in the Hindostannee manner, by one or two pair of bullocks being yoked to a piece of flat timber, on which the driver generally stands to increase the weight. In two or three days after this the field is hoed with coodalies to prevent the white ants from lodging in the ground, and is again levelled. These operations are repeated two or three times before the canes appear above the ground;

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ground ; when these attain the height of about eighteen inches, a quantity of manure is applied, after which the field is again hoed, and then watered. In this manner the plantation is hoed and watered five or six times till the commencement of the rains. After these subside, and in the months of Poos, Maug, and Phagun, (or December, January, and February), the cane is cut down at leisure (according to the greater or less pressing demands upon the proprietor); and when brought home it is divided into small pieces and thrown into the mill, where it is ground and the juice expressed therefrom. The produce of one biswah is ground in one mill, in the space of about twenty-four hours, and thus one bigah of good cane takes sixteen or twenty days.

36. Jerree is applied to such land as having previously yielded the khureeff or autumnal crops, is afterwards ploughed in Cautic or Aughun (October and November), should rain have fallen in either of those months; and if not, the field is watered from wells or tanks, and then ploughed, and in the month of Poos, or December, a flock of sheep (as before-mentioned) is kept for two or three nights on the field. It is again watered and ploughed, and the cane is planted therein either in Maug or Phagun (January or February), and the land is afterwards levelled. In short, the same process is adhered to as has already been stated, till the cane is at full maturity in December or January, when it is cut and ground in the mill.

37. Jownar is applied to such land as has yielded the rubby or spring crop, and being watered in March, it is afterwards ploughed, and the cultivation and planting is thereafter carried on in the same manner as has been already detailed, till the cane is ready to be cut.

38. Mooteree :—When a ryot rents (either from a zemindar or farmer, and under the security of a regular pottah) a certain number of bigahs at a fixed annual jumma for the whole promiscuously, and sows such portion of land with whatever sort or sorts of grain he may deem most advantageous to himself, the term mooteree is applied to the engagement thus entered into. The ryots who have leases of this kind, generally cultivate a few bigahs of sugar-canes, and the jumma thereof is calculated at the average rate per bigah; for instance, if a ryot rents ten bigahs for twenty rupees, and that he plants two with canes, the rye of those two will be four rupees, or one-fifth of twenty rupees.

39. The great importance of the immediate subject of this address, induces me to submit the following collateral information, in regard to the climate and soil of this district.

40. The zemindarry of Benares lies between the 24th and 26th degrees of North Latitude, and the 82d and 85th degrees of East Longitude. It is bounded to the northward by Oude; to the westward by the province of Allahabad and part of Bogilcund; to the southward by the frontiers of Berar, and to the eastward by the province of Behar. The Ganges takes its course directly through the middle of the district, besides being crosssd by several lesser streams, as the Goomty, Caramnassah, &c.

41. The soil of Bengal, which with scarce any exception (I believe) is a heavy black clay over a bed of perfect sea sand, reaches to the entrance of this district exactly; for the moment the Dewah is crossed to the north-east, and the Caramnassah to the south-west, we perceive not only a total change in the soil, but in the climate also; the period of seed-time and harvest, but more particularly in the commencement and duration of the periodical rains.

42. The soil of this district, generally speaking, is a light reddish earth of vast depth, with a great or less proportion of sand all along the northern bank of the Ganges. Towards the Caramnassah in the south it is often of a very deep red, and sometimes a black clay is met with. Wheat, barley, and all those grains which more immediately require a free light soil, are produced here, though in wet seasons and in low situations, rice is often raised in considerable quantities.

43. Another striking difference between the soil of Bengal and that of the district of Benares, or in general to the westward of the Gogra as far as Delhi, is the immense quantity of calcareous matter it abounds with, which being precipitated by water between various strata of clay, forms an immense stratum of calcareous tufa, commonly called konker. The depth of it varies much; in the pergunnah of Roleaslah it is found at the depth of eight or ten feet below the surface.

44. Another remarkable difference is the numerous salt-wells and grounds impregnated with salt. These are most common in the northern parts, and particularly in the north-west quarters. In some the water is limpid, in others it is black and stinking like the ouze or mud of rivers near the sea.

45. In many parts of this district, during the dry weather, an efflorescence is seen on the surface of the ground; this is termed flos-aseæ. The soil is in general poorer than in the Nabob's country, being too near the great rivers.

46. With respect to the superficial contents of the zemindarry, as the boundary has not yet been surveyed all round, it is impossible to ascertain it with precision. However, it is supposed to contain about 7,600 square miles. The flat grounds on both sides of the Ganges are about 4,900 square miles, and the hilly parts 2,700.

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47. The periodical rains generally set in here about the middle of June, and take off again about the beginning of September. There falls also in most years some heavy rain in the end of October or beginning of November, and again about the middle of January, but instances are rare of even a shower at other times. Here the contrast with Bengal is very strong, where it always rains in February and March, and that in such quantities as enables the ryots to begin their annual cultivation of many articles, indigo in particular; indeed this plant in Bengal, if it gets not into strength by the rains in February and March, it seldom, if ever, comes to any thing, nor (as I am informed) is it ever attempted to be sown afterwards, as here it is, in the month of June.

48. In the district of Benares rain never falls in those months, nor if it did could the natives derive any essential benefit from it, as the hot winds, which prevail all the months of April and May, destroy every plant which is not watered from the wells, indigo excepted.

49. The best soil in this province for the cane is a deep mould inclining to black when wet, and of a light yellowish colour when dry. Stiff clay is reckoned bad, as is also konker ground, and what is called oosseer land, which is stiff clay below with sand above, here and there covered with the white efflorescence before mentioned. The cane fields are always near either wells or tanks, on account of the proximity of water.

50. When the ground is low and abounds with stiff clay (as about Ghazeepoor) it retains the humidity too long, the plant grows too quick, and appears luxuriant, but the juice being watery, is poor, and yields comparatively but little sugar.

51. Not having personal experience for my guide, I submit the following observations and remarks with the greatest deference; and should they be deemed either imperfect or erroneous, I humbly hope that Government will excuse their insertion in this address, since they proceed from an eager desire of communicating all the information in my power upon so important a subject.

52. Though the mode of cultivating the sugar-cane here, and in the West Indies, is perhaps nearly the same in its principles, the advantages the latter have received from the improved state of agriculture in Europe, but beyond all; by their being uncontrouled by any system, and curbed by no prejudice, is very great. It becomes a question therefore, how far similar modes might be introduced here, with any prospect of advantage, and it seems probable that such improvements as require little of either expense or exertion, might be attempted, but the use of the heavy plough, the hoe, or machinery of any kind, with any material deviation from old custom and strong prejudice, cannot be expected but after a length of time, and the operation perhaps of both philosophical and political causes: and out of this naturally arises another question; how far the cultivation of the cane and manufacture of sugar might be pursued with a probability of success (in this district) by an European upon the West India plan?

53. On either of these points much cannot be said from the causes before mentioned. No series of experiments have as yet been made on these four essential heads, soil, plants, produce and fuel.

54. Almost all the canes in this district are small, but of considerable height. There are some however of one inch, and even one inch and a half diameter, and eight feet high; and this proves either that there are distinct species in the country, (which I am now enquiring into, and believe to be the case), or that difference of soil is the cause of this great difference in size. Be that as it may, it does not appear that the natives are very solicitous about their plants, as they usually cut them from the nearest fields, without any regard to the different soils, or indeed to any thing but the healthy look of the plants themselves.

55. It appears to me, that there is a great degree of absurdity in this practice, and perhaps it might be no very difficult matter to induce them to pay more attention to a circumstance so essential to avoid; at least bringing strong luxuriant plants into a poor soil, and vice-versa weak ones into a fine deep mould, and thus the improvement of the plant seems one of the easiest and most practicable. An annual distribution of a few thousand rupees in classes to these ryots, at each of the stations of Benares, Ghazeepoor, Juanpoor and Mirzapoor, who should produce to the Resident or Commercial Agent, the finest canes, raised by himself, would, I am induced to believe, soon improve the plants to the utmost they are capable of in this country, and would perhaps, in time effectually gave the way for the introduction of the West India practice, by which means only they could raise such plants at all.

56. The canes are planted here without any alleys, for the admission and circulation of air, and as it is said, before the ground is completely levelled.

57. The consequence of the first practice is, that the plants run up very small, and being too close together, frequently ferment, wither at the extremities, and sometimes die altogether; but the latter mode is the greatest evil. In the watering, the plants are frequently four and eight inches under water for a considerable length of time, and as the natives never clean between the rows, nor pull off the dead leaves, the consequences are, either that the roots rot and die, or that the vegetation is so forced by

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by the combination of heat and moisture, which cannot in any instance be long kept up, that the plant becomes weak and languid towards the end of the season, and its juices crude and indigested.

58. I have said before, that the cane intended for the plant is cut into pieces of about eighteen inches in length, but I do not for that purpose find the ryot to give any preference to any particular part; a circumstance with which I am not a little surprized, since I am disposed to believe, the top part will be found to vegetate more quickly, while by confining it to that use the barrel of the cane might exclusively be used for sugar, for which it is infinitely in a better condition than the other; but this inconvenience in so narrowed a field cannot (perhaps) well be avoided.

59. In the sugar-cane fields a variety of strong luxuriant plants, and sometimes even young trees mixed with the cane may be frequently observed. This cannot fail to injure the plants, which certainly have no moisture to spare in this climate.

60. The ryots also wattle the fields entirely round with reeds and long grass, to prevent the cattle breaking in, thereby precluding the entrance of air altogether.

61. These seem to me the most obvious faults in the management of sugar plantations in this country; and they are selected as being those only which it is probable the natives might be gradually induced to alter.

62. Having ascertained, in the first instance, the best species of cane which ought in general to be brought from rather a poor soil to a better, they should be planted in pretty deep furrows, with an interval of three feet between each row. Those again should be divided into square plots, containing twelve rows, and between every plot an alley of five or six feet at least, not only for the free circulation of air, but for the convenience of cleaning and weeding. The loss of so much ground at the outset would certainly alarm the ryot; but were it demonstrated that the produce would repay him, he would, in all likelihood, cheerfully adopt it.

63. The plants ought to be laid two together in the furrows, at about two feet asunder; and when they put forth shoots, and have gained some degree of strength, the earth ought to be drawn round them, leaving them in the shape of conical hillocks. They must be hoed and cleaned carefully between, and this practice ought to be continued through the whole season.

64. If this mode is attentively pursued, the watering will be unattended by the inconveniences above detailed, the roots will be duly supplied with moisture, and every danger from fermentation avoided, and the most essential requisite obtained—a free circulation of the air through the whole plantation. The dry leaves at the roots ought to be pulled off as they wither; and the young plants ought to be carefully inspected daily, as an insect is often found lodged in the shoot, which totally destroys the plant unless it is extracted; and there is nothing further required, except watering at the proper periods, to produce strong, healthy, and productive canes; and it may be reasonably supposed, that, if the proper cane was once introduced, and the cultivation properly conducted, a plantation might be continued for several years from once planting. I understand it is a universal practice in Bengal to strip off the under leaves as the plant rises, and when at about the height of a cubit, they bend together the stalks of one root, and as they increase in height the stalks proceeding from four roots are bound together with their own leaves, which preserves them against storms of wind. In this province the under leaves are never pulled off, nor are the stalks ever bound together, except in those fields or parts where the cane may have vegetated to an extraordinary height.

65. It is needless to insist on those advantages which might be obtained by the introduction of the heavy English plough, the hoe, &c. &c. Any European who should cultivate the cane on his own account, might, no doubt, try many modes of which the natives are ignorant; and this leads to the consideration of the question, How far the cultivation of the cane might be attempted by an European, with any prospect of advantage?

66. The first point he would have to attend to would be land proper for his purpose, a low jumma, and the facility of watering from tanks or wells. It would then be necessary to purchase bullocks, make ploughs, collect manure, &c., for it is impossible to set out upon any attempt of this kind, with any the slightest reliance for assistance from the natives. Occasionally they might plough and water for him, but he must be known to have resources within himself, by having bullocks, ploughs, &c. otherwise he will never be able to induce the ryot to work for him but on terms that would be ruinous: and here, perhaps, if it is considered, that to carry on the cultivation of sugar to any extent, there must be a heavy and constant expense in feeding some hundreds of cattle, which will of course be unserviceable or idle nine months in the year, whereas the ryot has constant means of employment for his—the plan in its outset may appear unadvisable.

67. Further, an European must give high daily wages to all his people; he must keep an establishment of sirkars, peons, &c. &c. ever connected with European exertion in India; besides being liable to innumerable deceptions, which nothing but long and generally dear-bought experience can enable him to detect.

68 A ryot

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68. A ryot, on the contrary, prepares his plantation with the same cattle that plough his other lands. His whole family work upon it, and though it is true these must be fed, still they are maintained for one-fourth which they would expect to receive if at day wages; and as to superintendence, it costs them nothing.

69. It would be no difficult matter to go much more into detail on this subject, but the foregoing statement will probably support the opinion, "That though it is reasonable to suppose that the introduction of the West-India modes, under European management, might very considerably increase the produce and improve the quality, still it is a matter of great doubt how far it would compensate for the heavy difference of expense; and that every advantage might be attained by suitable instructions to the collectors and commercial agents of the Company at the different stations, together with a liberal distribution of premiums for a few years." In my opinion, no other mode than this last will ever get the better in the breast of the native, of long custom and the practice of his forefathers; nor reason, nor example will do it: in a case of this kind he must literally be bribed to procure his own advantage.

70. If upon the present system of the ryots they could be induced, as a preliminary step to future improvement, merely to clean their plantation, by depriving the cane of its dry leaves and suckers, if not before, at least during the rains, or in that season which immediately precedes the period of cutting, I am confident much benefit would result even from this very simple operation, or mode of treatment. The juice would become more saccharine, and rendering more easily to the action of heat, would produce a saving in fuel as well as in labour; for a cane charged with suckers is always in the vigour of vegetation, and that vegetation is ever unfriendly to the manufacture. When the juice is aqueous, the process is tedious, and the sugar obtained generally ropy and dark. The dry leaf and sucker should therefore, during and after the rains, carefully be removed. The dry leaf cherishes the sucker, and its name is sufficiently descriptive of its uses.

71. I have never observed the cane in this country to flower (and the reasons why it is not allowed to do so will be stated hereafter), I therefore conclude it is cut too soon. The cane, like other productions of the vegetable world, produces seed, and analogy warrants the conclusion, that in that condition it is fittest for the hook.

72. The attachment of the natives to their established customs and usages is well known, and on the present occasion it may not be improper to state some of the superstitious notions of the ryots respecting the cane, as it will tend to shew that any improvement which may be attempted in the culture thereof, can only be effected by gradual steps and the most encouraging and lenient measures.

73. The ryots consider the sugar-cane (and also the beetel plant) in a sacred and superior light; they even class it amonst the number of their deutohs. The first fifteen days of Koar (or September) termed Peetereputch, are devoted by the Hindoos to religious ceremonies and offerings, on account of their deceased parents, relations, and friends; such of them as have been bereft of their parents refrain from every indulgence during the said period, as being the season of mourning and mortification; and as they deem the performance of the higher rites of their religion (such as making offerings of sweetmeats, cloths, jewels, &c. in the temples of their several deities, and also the sacrifices denominated Hown-Jugg, &c.) a pleasure and enjoyment, those are likewise carefully avoided.

74. The sacred appellation of the cane amongst the ryots is nag'bele, and hence, for the reasons above stated, the immediate owners of the cane plantations sedulously refrain from repairing to or even beholding them, during the continuance of the Peetereputch. On the 26th of Cateeck (or October), termed by the ryots Deuthan, they proceed to the fields, and having sacrificed to Nag'bele, a few canes are afterwards cut and distributed to the bramins. Until these ceremonies are performed according to the rules of established usage and custom, no persuasion or inducement can prevail upon any of them to taste the cane, or to make any use whatever of it.

75. On the 25th of Jeyte (or May), termed the Desharah, another usage is strictly adhered to. As it is usual with the ryots to reserve a certain portion of the canes of the preceding year, to serve as plants for their new cultivation, it very frequently happens that inconsiderable portions of cane remain unexpended after the said cultivation has been brought to a conclusion. Wherever this happens to be the case, the proprietor repairs to the spot, and having sacrificed to Nag'bele (as before stated) he immediately sets fire to the whole, and is exceedingly careful to have this operation executed in as complete and efficacious a manner as possible.

76. The cause of this extraordinary practice proceeds from a superstitious notion of a very singular kind. The act is committed from an apprehension that if the old canes were allowed to remain in the ground beyond the 25th of Jeyte, they would in all probability produce flowers and seed; for the appearance of these flowers they consider as one of the greatest misfortunes that can befal them.

77. They unanimously assert, that if the proprietor of a plantation happens to view even a single cane therein which is in flower, the greatest calamities will befal himself, his parents, his children, and his property; in short, that death will sweep away

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away most of the members, or indeed the whole of his family, within a short period of time after his having seen the cane thus in flower. If the proprietor's servant happens to see the flower, and immediately pulls it from the stalk, buries it in the earth, and never reveals the circumstance to his master, in this case they believe that it will not be productive of any evil consequences. But should the matter reach the proprietor's knowledge, the calamities before stated must, according to their ideas, infallibly happen.

78. In support of this belief, many of the most aged zemindars and ryots in this province recited several instances of the above nature, which they affirmed to have actually happened, during their own time, and moreover, that they had been personal witnesses to the evils and misfortunes which befel the unhappy victims of the description alluded to. These superstitious ideas must have originated at a very distant period, since they are now so firmly rooted, in the minds of the ryots in this part of the country.

79. As the new cane is in the strength of vegetation during the rains, or in the months of Saween and Bhadoon (July and August), the proprietors in many parts of this province carefully avoid repairing to, or viewing their plantations during those months, least a cane flower should accidentally strike their sight, and thus entail upon them those miseries, which they are fully peruaded must speedily follow such a circumstance.

80. The ryots have several other singular notions in regard to to the cane, but the particulars I have already taken the liberty to to enumerate, will sufficiently shew, that any measures which may be adopted for future improvement, in respect to the cultivation, &c. must be introduced with circumspection and care, and must hold out a more than ordinary degree of encouragement, otherwise it will be extremely difficult to overcome those prejudices and opinions, which have acquired so absolute an ascendancy over their minds, and which appear to have been entertained in this part of the country for ages past.

81. I am informed that there is a species of cane called kutharee, cultivated in or near the district of Churnparun, and upon the banks of the Gagra, which is not cut down by the cultivators thereof until all the canes are in flower. Having mentioned this circumstance to some of the ryots of Benares, to convince them of the absurdity of ascribing the common misfortunes incident to human existence and exertion to the evil influence of a cane-flower, they only replied that, the kutharie-cane might perhaps be an exception to what they had stated, as the sum of their faith on this head: such faith being, however, invariably corroborated by the result of long observation and experience in this zemindarry.

82. There is no class or cast of ryots in this country, who confine their labour to the cultivation of the sugar-cane only; a ryot renting eight or ten bigahs, will probably rear one or two of cane. He reckons on the produce of the remaining number, (or those sown with barley, peas, &c.) for the subsistence of his family, and generally depends on that of the canes, for the payment of his jumma to Government.

83. Though, exclusive of the jumma, the cultivation of the cane is usually attended with a certain degree of expense, even to the ryot, yet it is certain that his greatest profits arise from the culture of this valuable plant. I have already mentioned that his comparative advantages are many, since the whole of his family are ever employed in the plantation, and thus the necessity of hiring daily labourers is entirely removed. The same cattle not only plough his cane lands, but also those for wheat, barley, &c. By these means he cultivates the cane at far less expense than a person differently situated could possibly effect, and thus his profits become considerable.

84. Under these circumstances it becomes extremely difficult to form any correct estimate of the actual expence incurred by a ryot, in the cultivation of a bigah of canes, since the rye of the lands are so various in every part of the district, and since the greater or less quantity of produce depends so much on the quality of the ground, and on the degree of attention and care, bestowed on the cultivation &c.

85. But, the Government may be enabled to form some judgment on this subject, I submit the following estimates, drawn up on the *supposition* that the whole of the labour bestowed is paid for, according to the current rates and practice of the country.

1st Estimate.— Pergunnah of Hevelie Ghazeepoor.

Rent of one bigah (of twenty biswahs), agreeable to the rye or rates per bigah	6	0	0
Charges of ploughing and dressing ditto sixteen times from the month of Assar (June) to the of Maug (or January) twenty-four ploughs at one anna each	1	8	0
Cost of forty bundles of plants or cuttings of cane at sixteen bundles per rupee	2	8	0
Charges for keeping a flock of sheep in the field four nights at two annas each night	0	8	0
Coolies work for hoeing the ground around the plants fourteen times, each hoeing requiring eight labourers, in all 112 at three piece or 336 piece, at 64 per rupee	5	4	0
100 maunds of manure and plass leaves	1	0	0
Watering the canes five times (during the season) from wells at one rupee four annas each time	6	4	0
Rupees	23	0	0

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Expenses of manufacturing the gour.

Mill-hire for grinding the sugar-cane ..... Rs.	0	4	0
Coolies-work for twenty days for expressing the juice and manufacturing the gour, ten coolies per diem at two-and-a-half pice per each per day, 500 pice at sixty-four per rupee	7	13	0
Carpenter and black-smith's work for making the mill-wheel, &c.	0	4	0
Hire of iron pans	1	4	0
Jungle-grass leaves, &c. for boiling the gour, 100 bundles...	0	6	0
Rupees	9	15	0
Expense of cultivation..... Rupees	23	0	0
Do of manufacturing the gour.....	9	15	0
Total, Bs. Sa.Rs.	32	15	0

Produce; 22 maunds of gour, or jagree, which at 2 rupees per maund comes to rupees 44, and thus the estimated profit is rupees 11 1.

2d Estimate.— Pergunnah of Behluah.

86. Rent of a bigah (of twenty biswahs) ..... Rs.	5	0	0
Charges of ploughing and dressing the lands	1	0	0
Cane-cuttings (for seed)	2	0	0
Coolies work for hoeing the ground around the plants six times, each time requiring twenty-one labourers, in all 126, at half an anna each	3	15	0
Charges for keeping a flock of sheep on the field for four nights, at four annas each night	1	0	0
Coolies-work for twenty days for expressing the juice, six coolies per diem make 120, at half an anna per diem.....	3	12	0
Carpenter and blacksmith's work, for making the wooden mill, &c.	2	4	0
Fodder, &c. for bullocks	1	0	0
Hire of iron pans or boilers	0	8	0
Rupees	20	7	0

Produce; 33½ maunds of bhelee or gour, 45 siccas to the seer (cutcha weight) at the rate of 1 maund 5 seers per rupee.

Rupees	29	0	0
Deduct charges of cultivation, &c..... Rs.	20	7	0
Remains rupees	8	9	0

3d Estimate.—Pergunnah of Kuswar.

87. In this pergunnah (which is within a few miles of Benares) the lands are of an excellent quality, and produce very good canes.

Rent of one bigah of twenty biswahs ..... Rs.	10	0	0
Charges	2	0	0
Cane-cuttings for seed	2	8	0
Coolies-work for hoeing the ground around the plants, eight times each hoeing, requiring twenty labourers, or in all 160, at half an anna each	5	0	0
Charges for keeping a flock of sheep in the field for four nights, at eight annas each night.....	2	0	0
Watering the canes at different periods	6	0	0
Coolies-work for expressing the juice	8	0	0
Carpenter and blacksmith's work, and hire of iron pans or boilers, &c. &c.....	4	0	0
Rupees	39	8	0
Produce; Thirty maunds of raab (at eighty siccas to the seer) valued at the average rate of rupees two per maund ..... Rs.	60	0	0
Deduct charges, ditto.....	39	8	0
Remain rupees	20	8	0

88. I shall now proceed to submit the following estimates (and statements) of the probable produce of the cane lands in this province, from the begining of 1195 fussily to the end of 1199 fussily, or from 1787-8 to 1791-2 inclusive. In drawing up estimates of this kind, I cannot take upon me to say that they may be depended upon as absolutely correct.

correct. But I beg leave to assure Government, that I have spared no pains on the occasion, and that I believe they approach as nearly to the truth, as the nature of the subject can admit of; and the average rates of produce annexed to each class have been formed on the result of much inquiry and investigation.

From the Political Resident at Benares 20th April 1793.

89. The produce thus alluded to consists either of jagree (termed kunseah or bhelee, or gour), and raab (or turrey), being the coarse sugars immediately manufactured from the cane-juice, and which the refiners afterwards make into chenee (or white sugar).

90. (*Cultivation of Chowmuss during Five Years.*)

Sirkar of Benares.

	Bigahs.				Maunds.		
Chowmuss, 1st sort	13,759	0	5	at 40 maunds per bigah ...	5,50,360	20	0
Do. ...2d do.	13,757	10	15	at 30 .....do.....	4,12,726	5	0
Bigahs	27,516	11	0	Maunds	9,63,086	25	0

Sirkar of Chunar.

Chowmuss, 1st sort	5,967	12	0	at 20 maunds per bigah ...	1,11,352	0	0
Do. ...2d do.	5,966	16	15	at 15.....do.....	89,502	22	8
Bigahs	11,934	8	15	Maunds	2,08,854	22	8

Sirkar of Ghazepoor.

Chowmuss, 1st sort.....	37,125	13	15	at 20 maunds per bigah ...	7,42,513	30	0
Do. ...2d do.	37,125	11	10	at 15.....do.....	5,56,883	25	0
Bigahs	74,251	5	5	Maunds	12,99,397	15	0

Sirkar of Juanpoor.

Chowmuss, 1st sort	6,333	6	10	at 40 maunds per bigah ...	2,53,333	0	0
Do. ...2d do.	6,333	16	0	at 30.....do.....	1,90,014	0	0
Bigahs	12,667	2	10	Maunds	4,43,347	0	0

Sirkar of Tirhar.

Chowmuss, 1st sort	5,574	17	0	at 20 maunds per bigah ...	1,11,497	0	0
Do. ...2d do.	5,574	15	0	at 15 .....do.....	83,621	10	0
Bigahs	11,149	12	0	Maunds	1,95,118	0	0

Budhoie.

Chowmuss, 1st sort.....	13,320	0	0	at 20 maunds per bigah ...	2,66,400	0	0
Do. ...2d do.	13,320	0	0	at 15.....do.....	1,99,800	0	0
Bigahs	26,640	0	0	Maunds	4,66,200	0	0

Kera Mungrowr.

Chowmuss, 1st sort	257	10	0	at 20 maunds per bigah ...	5,150	0	0
Do. ...2d do.	257	10	0	at 15 .....do.....	3,862	20	0
Bigahs	515	0	0	Maunds	9,012	20	0

Abstract.

Sirkar of Benares, Bigahs	27,516	11	0	..... Maunds	9,63,086	25	0
Do. of Chunar 11,934		8	15	.....	2,08,854	22	8
Do. of Ghazeepoor.....74,251		5	5	.....	12,99,397	15	0
Do. of Juanpoor 12,667		2	10	.....	4,43,347	0	0
Do. of Terhar 11,149		12	0	.....	1,95,118	10	0
Budhoie 26,640		0	0	.....	4,66,200	0	0
Kera Mungrowr	515	0	0	.....	9,012	20	0
Bigahs	1,64,673	19	10	Maunds	35,85,016	12	8

The number of bigahs being 1,64,673 19 10, and the estimated produce Maunds 35,85,016 12 8, the average rate per bigah on the whole comes to Maunds 21 30 13.

(*Cultivation*

From the Political Resident at Benares 20th April 1793.

91. (*Cultivation of Jerree during Five Years.*)

Sirkar of Benares.

	Bigahs.				Maunds.		
Jerree, 1st sort	1,791	7	0	at 25 maunds per bigah	44,783	30	0
Do. 2d do.	1,791	8	0	at 20 do.	35,828	0	0
Bigahs	3,582	15	0	Maunds	80,611	30	0

Sirkar of Chunar.

Jerree, 1st sort	4,092	9	10	at 17 maunds per bigah	67,572	3	0
Do. 2d do.	4,091	18	5	at 12½ do.	51,148	36	4
Bigahs	8,184	7	15	Maunds	1,20,720	39	4

Sirkar of Ghazeepoor.

Jerree, 1st sort	7,269	7	0	at 17 maunds per bigah	1,23,578	38	0
Do. 2d do.	7,269	7	0	at 12½ do.	90,866	35	0
Bigahs	14,538	14	0	Maunds	2,14,445	33	0

Sirkar of Juanpoor.

Jerree, 1st sort	5,083	16	0	at 25 maunds per bigah	1,27,095	0	0
Do. 2d do.	5,083	15	10	at 20 do.	1,01,675	20	0
Bigahs	10,167	11	10	Maunds	2,28,770	20	0

Kera Mungrowr.

Jerree, 1st sort	187	10	0	at 17 maunds per bigah	3,187	20	0
Do. 2d do.	187	10	0	at 12½ do.	2,343	30	0
Bigahs	375	0	0	Maunds	5,531	10	0

Abstract.

Sirkar of Benares ... Bigahs	3,582	15	0	Maunds	80,611	30	0
Do. of Chunar ...	8,184	7	15	...	1,20,720	39	4
Do. of Ghazeepoor ...	14,538	14	0	...	2,14,445	33	0
Do. of Juanpoor ...	10,167	11	10	...	2,28,770	20	0
Do. of Mungrowr ...	375	0	0	...	5,531	10	0
Bigahs	36,848	8	5	Maunds	6,50,080	12	4

As the number of bigahs of this class amounts to 36,848 8 5, and the estimated produce to Maunds 6,50,080 12 4, the average rate per bigah on the whole is Maunds 17 15 10 fourteen-sixteenths

92. (*Cultivation of Jownar during Five Years.*)

Sirkar of Benares.

	Bigahs.				Maunds.		
Jownar, 1st sort	5,108	3	10	at 20 maunds per bigah	1,02,163	20	0
Do. 2d do.	5,110	14	15	at 15 do.	76,661	2	8
Do. 3d do.	5,109	18	0	at 12½ do.	63,873	30	0
Bigahs	15,328	16	5	Maunds	2,42,698	12	8

Sirkar of Chunar.

Jownar, 1st sort	4,102	18	5	at 16 maunds per bigah	65,646	24	0
Do. 2d do.	4,102	17	15	at 12½ do.	51,286	3	12
Do. 3d do.	4,100	8	5	at 10 do.	41,004	5	0
Bigahs	12,306	4	5	Maunds	1,57,936	32	12

Sirkar of Ghazeepoor.

Jownar, 1st sort	15,106	7	10	at 16 maunds per bigah	2,41,702	0	0
Do. 2d do.	15,104	16	10	at 12½ do.	1,88,810	0	0
Do. 3d do.	15,105	10	15	at 10 do.	1,51,055	15	0
Bigahs	45,316	14	15	Maunds	5,81,567	27	8

Sirkar

From the Political Resident at Benares, 20th April 1793.

Sirkar of Juanpoor.

	Bigahs.				Maunds.		
Jownar, 1st sort	21,958	12	10	at 20 maunds per bigah	4,39,172	20	0
Do. 2d do.	21,958	18	10	at 15 ... do.	3,29,383	35	0
Do. 3d do.	21,959	11	0	at 12½ ... do.	2,74,494	15	0
Bigahs	65,877	2	0	Maunds	10,43,050	30	0

Sirkar of Terhar.

Jownar, 1st sort	133	11	0	at 16 maunds per bigah ...	2,136	32	0
Do. 2d do.	133	11	0	at 12½ ... do.	1,669	15	0
Do. 3d do.	133	10	0	at 10 ... do.	1,335	0	0
Bigahs	400	12	0	Maunds	5,141	7	0

Budhoie.

Jownar, 1st sort	880	1	0	at 16 maunds per bigah ...	14,080	32	0
Do. 2d do.	880	0	0	at 12½ ... do.	11,000	0	0
Do. 3d do.	879	19	0	at 10 ..... do.	8,799	20	0
Bigahs	2,640	0	0	Maunds	33,880	12	0

Kera Mungrowr.

Jownar, 1st sort	253	7	0	at 16 maunds per bigah	4,053	24	0
Do. 2d do.	253	7	0	at 12½ ..... do.	3,166	35	0
Do. 3d do.	253	6	0	at 10 ..... do.	2,533	0	0
Bigahs	760	0	0	Maunds	9,753	19	0

Abstract.

Sirkar of Benares, Bigahs	15,328	16	5	..... Maunds	2,42,698	12	8
Do. of Chunar	12,306	4	5	.....	1,57,936	32	12
Do. of Ghazeepoor ...	45,316	14	15	.....	5,81,567	27	8
Do. of Juanpoor.....	65,877	2	0	.....	10,43,050	3	0
Do. of Terhar.....	400	12	0	.....	5,141	7	0
Budhoie	2,640	0	0	.....	33,880	12	0
Kera Mungrowr	760	0	0	.....	9,753	19	0
Bigahs	1,42,629	9	5	Maunds	20,74,028	20	12

The number of bigahs of this class being 1,42,629 9 5, and the estimated produce Maunds 20,74,028 20 12, the average rate per bigah on the whole is, Maunds 14 21 $10\frac{8}{16}$.

93. *Mooterie during Five Years.*

Sirkar of Benares.

Mooterie, 1st sort	6,217	13	5	at 16 maunds per bigah ...	99,482	24	0
Do. 2d do.	6,215	3	10	at 15 ..... do.	93,273	25	0
Do. 3d do.	6,214	18	0	at 12 ..... do.	74,578	32	0
Bigahs	18,647	14	15	Maunds	2,67,289	1	0

Sirkar of Chunar.

Mooterie, 1st sort	295	5	0	at 15 maunds per bigah ...	4,428	30	0
Do. 2d do.	296	0	0	at 12 ..... do.	3,552	0	0
Do. 3d do.	292	4	15	at 10 ..... do.	2,922	15	0
Bigahs	883	9	15	Maunds	10,903	5	0

Sirkar of Ghazeepoor.

Mooterie, 1st sort	480	0	0	at 15 maunds per bigah ...	7,200	0	0
Do. 2d do.	480	0	0	at 12 ..... do.	5,760	0	0
Do. 3d do.	479	4	0	at 10 ..... do.	4,792	0	0
Bigahs	1,439	4	0	Maunds	17,752	0	0

From the Political Resident at Benares, 20th April 1793.

Sirkar of Juanpoor.

	Bigahs.				Maunds.		
Mooterie, 1st sort	4,291	6	0	at 16 maunds per bigah ...	68,660	32	0
Do. 2d do.	4,291	4	10	at 15 ..... do.	64,368	15	0
Do. 3d do.	4,291	18	5	at 12 ..... do.	51,502	38	0
Bigahs	12,874	8	5		Maunds 1,84,532	5	0

Abstract.

Sirkar of Benares	Bigahs 18,647	14	15	Maunds	2,67,289	1	0
Do. of Chunar	883	9	15	.....	10,903	5	0
Do. of Ghazeepoor	1,439	4	0	.....	17,752	0	0
Do. of Juanpoor	12,874	8	15	.....	1,84,532	5	0
Bigahs	33,844	17	5	Maunds	4,80,476	11	0

The total of this class being Bigahs 33,844 17 5, and the estimated produce, Maunds 4,80,476 11, the average rate per bigah on the whole comes to Maunds 14 $7\frac{13}{16}$.

94. The following is a *General Abstract of the preceding Estimates for Five Years.*

Chowmuss ..... Bigahs	1,64,673	19	10	... Average rate, Maunds	35,85,016	12	8
Jerree	36,848	8	5	... Do. ..... do.	6,50,080	12	4
Jownar	1,42,629	9	5	... Do. ..... do.	20,74,028	20	12
Mooterie	33,844	17	5	... Do. ..... do.	4,80,476	11	0
Bigahs	3,77,996	14	5	Maunds	67,89,601	16	8

Thus the total number of Bigahs 3,77,996 14 15, and that of the estimated produce Maunds (of 81 8 Benares siccas to the seer, eqnal to 80 6 Calcutta siccas), 67,89,601 16 8, the average rate per bigah on the whole comes to Maunds 17 38 $7\frac{11}{16}$.

95. In order to shew the quantity of pucka chenee, or the best sort of fine powdered sugar, that the preceding amount of estimated produce *would be capable of* yielding, supposing the whole to be manufactured according to the usual process observed by the refiners in this province (and of which an account will be given hereafter), the following statement is now submitted:

Estimated produce (as above stated)	Maunds	67,89,601	16 8
Deduct:—Loss by evaporation, skimmings, dregs, &c. &c. at 6 seers per maund in manufacturing pucka chenee...		10,18,440	8 8
Remains:—Amount of purified syrup ...	Maunds	57,71,161	8 0
As one maund of such syrup generally yields $\frac{3}{4}$th of chenee, or best powdered sugar, hence $\frac{3}{4}$ths of the above balance must be deducted from the amount of it; these $\frac{3}{4}$ths consist of (what the natives denominate) joossie, chootah, and sherah, &c. or several species of molasses, of which sherah is the best	Maunds	43,28,370	36 0
Remains:—Amount of fine chenee	Maunds	14,42,790	12 0

The total amount of chenee by this statement being Maunds 14,42,790 12 for five years, the average amount for one year comes to Maunds 2,88,558 2 6_{75}th.

96. The present demand for chenee being very great, the actual prices are consequently much higher than in former years. The following valuations of the estimated produce above stated are therefore put down at the medium rates of 1789, 1790, and 1791, or before the demand for sugars became so general as it now is.

Amount of chenee brought down, Maunds 14,42,799 12, valued at Rs. 7 per maund	1,00,99,532	1	12
The amount valuation of the several species of molasses, being (as before stated) Maunds 43,28,370 36, must be here added to that of the chenee.			
The quantum of sheera (or the best sort) is calculated (from the most accurate information that could be procured) at $\frac{1}{8}$th (of Maunds 43,28,370 36) or Maunds 5,41,046 14 8, at Rs. 2 8 per maund	13,52,615	14	10
Do. of joossie and chootah $\frac{3}{4}$ths of do., Maunds 37,87,324 21 8, at 1 rupee per maund	37,87,324	8	12
	51,39,940	7	2
Total Valuation, Benares Sicca Rs.	1,52,39,472	8	14

As the total amount is Rupees 1,52,39,472 8 14 for five years, the average for one year comes to Rupees 30,47,894 8 2 3.

97. That

From the Political Resident at Benares, 20th April 1793.

97. That Government may be enabled to form some conception of the advantage derived by the zemindarry of Benares from the cultivation of the cane and the manufacture of sugar, the following statements and estimates of the medium charges and expenses they are subject to have been drawn up, from the best information that could be procured. It is however necessary to premise, that as it is impossible (for the reasons already stated in a former part of this report) to ascertain the actual expenses incurred by the ryotts in cultivating the cane and expressing the juice, the average rates thereof now submitted are grounded on the *supposition*, that all labour, assistance, &c. bestowed or applied, has been paid for according to the usual rates of the country; or, in other words, those average rates are calculated at what the cultivation would probably cost, were it carried on by a person not possessed of the natural local advantage of the ryott, and who would be obliged to pay the hire of labourers and of bullocks, and the cost of manure, &c. &c. during every stage, from the first ploughing of the field to the final expression of the cane-juice.

Chowmuss.

Average estimated expense of the cultivation of 1 bigah thereof in the Sirkar of Benares	Rs.	21	11
Do. ..... Do. ..... of Chunar		16	2
Do. ..... Do. ..... of Juanpoor		24	14
Do. ..... Do. ..... of Ghazeepoor		17	0
Do. ..... Do. ..... of Terhar		13	12
Do. ..... Do. ..... of Budhoie		21	11
Do. ..... Do. ..... of Kera Mungrowr.....		15	10
Total average amount for seven bigahs, Rupees		130	12

Or per bigah ..... Rupees 18 10 17½.

Jerree.

Average estimated expense of the cultivation of 1 bigah thereof in the Sirkar of Benares	Rs.	15	4
Do. ..... Do. ..... of Chunar		12	0
Do. ..... Do. ..... of Juanpoor		17	5
Do. ..... Do. ..... of Ghazeepoor		12	4
Do. ..... Do. ..... of Kera Mungrowr		12	0
Total average amount for five bigahs, Rupees		68	13

Or for one bigah ..... Rupees 11 7 10.

Jownar.

Average estimated expense of the cultivation of 1 bigah thereof in the Sirkar of Benares	Rs.	12	14
Do. ..... Do. ..... of Chunar		11	2
Do. ..... Do. ..... of Juanpoor		14	6
Do. ..... Do. ..... of Ghazeepoor		10	14
Do. ..... Do. ..... of Terhar		8	8
Do. ..... Do. ..... of Budhoie		11	11
Do. ..... Do. ..... of Mungrowr		9	10
Total average amount of seven bigahs, Rupees		79	1

Or for one bigah ..... Rupees 11 4 14 2¼.

Mooterie.

Average estimated expense of the cultivation of 1 bigah thereof in the Sirkar of Benares	Rs.	14	5
Do. ..... Do. ..... of Chunar		11	4
Do. ..... Do. ..... of Juanpoor		16	3
Do. ..... Do. ..... of Ghazeepoor		11	6
Total average amount of four bigahs, Rupees		53	2

Or for one bigah ..... Rupees 13 4 10.

General Abstract of the Estimated Expense of Cultivation.

Chowmuss, bigahs	1,64,673	19	10	at the average rate of rupees 18 10 17½ per bigah Rupees	}	30,75,864	6	12	1
Jerree ... do.	36,848	8	5	at do. ...	Rs. 11 7 10 do. ...	4,22,605	3	13	3½
Jownar ... do.	1,42,629	9	5	at do. ...	Rs. 11 4 14 2¼ do....	16,11,149	0	11	2
Mooterie ... do.	33,844	17	5	at do. ...	Rs. 13 4 10 do. ...	4,49,502	1	3	3
Bigahs	3,77,996	14	5		Total rupees	55,59,120	12	1	1½

Or per bigah, ... Rupees 14 11 5 3¾.

Estimate

From the Political Resident at Benares, 20th April 1793.

Estimate of Expense in expressing the Cane-juice calculated on the Produce of a Bigah.

Sirkar of Benares.

For erecting choppers	Rs.	0	14	0			
Repairs to the mill		0	6	0			
Coolie hire		8	0	0			
Naunds, or large earthen pots		0	7	0			
Hire of the mill		1	0	0			
					10	11	0	0
Sirkar of Chunar					11	7	0	0
Juanpoor					18	8	0	0
Ghazeepoor					9	6	0	0
Terhar					9	10	0	0
Budhoie					8	10	0	0
Kera Mungrowr					7	4	0	0
For seven Bigahs, total Rupees					75	8	0	0

Or for one bigah, ...Rupees 10 12 11 $1\frac{1}{4}$.

Hence the whole extent of cultivation, *viz.* Bigahs 3,77,996 14 5, will come to (at Rupees 10 12 11 $1\frac{3}{4}$ per bigah) Rupees 40,76,975 1 8 $1\frac{1}{2}$.

Estimate of Expenses in the different Processes of manufacturing Cheenee from the Cane-juice, calculated on the medium estimated produce of one Bigah.

Sirkar of Benares.

Hire of kuraus, or iron boilers	Rs.	2	0	0				
Fuel		0	4	0				
Wages of coolies		1	12	0				
Cost of the sewar, or water grass		0	6	0				
Taat, a sort of coarse canvas		0	8	0				
Milk and palma-christi seed		0	3	0				
Naunds, or large earthen pots		0	8	0				
Gurrah cloth		0	4	0				
Baskets		0	1	0				
					5	14	0	0
Do. of Chunar					4	11	0	0
Do. of Juanpoo					7	10	10	0
Do. of Ghazeepoor					8	8	10	0
Do. of Terhar					2	6	0	0
Budhoie					5	14	0	0
Kera Mungrowr					4	11	0	0
On the average produce of seven Bigahs .....Rupees					39	11	0	0
Or on that of one bigah, ...Rupees					5	10	14	1

98. Thus the estimated expenses on Bigahs 3,77,996 14 5 will amount to Rupees 21,43,063 14 15 $2\frac{3}{4}$. The whole amount of gour, bhelee, and raab (coarse sugars and inferior to the West-India muscovado) which the extent of cultivation in this zemindarry, during five years, has been deemed adequate to produce (as stated in a former part of this report), and estimated at Maunds (of 80 C. Sa. to the seer) 67,89,601 16 8, yielded the average rate of (per bigah) maunds 17 38 $7\frac{11}{16}$th, which is equal (by a medium calculation) to maunds of cane-juice 98 31 $10\frac{7}{16}$ths, or for one maund of gour, bhelee, or raab Maunds $5\frac{1}{2}$. Hence the total amount of estimated cane-juice for the said period and according to this rate (per bigah) comes to Maunds 3,73,42,807 30 12. I think it necessary to mention in this place, that three maunds of the 1st or best sort of cane-juice will sometimes yield one maund of gour, &c.

Of the 2d. sort, 4 Maunds produce.....	1 of do.
Of the 3d. do. 5.....	do.
Of the 4th. do. 6.....	do.
Of the 5th. do. 7.....	do.
Of the 6th. do. 8.....	do.

Thus the medium rate comes to $5\frac{1}{2}$ maunds of juice.

General Abstract of Estimated Expenses.

1st Jumma of Bigahs 3,77,996 14 5 during five years .... Rupees	17,32,310	14	15	0	
2d. Estimated expense of cultivation do.	55,59,120	12	1	$1\frac{1}{2}$	
3d. Do.....of expressing the cane-juice	40,76,975	1	8	$1\frac{1}{2}$	
4th. Do.....of manufacturing the cheenee from the cane-juice	21,43,063	14	15	$2\frac{3}{4}$	
Total.....Rupees	1,35,11,470	11	0	$1\frac{3}{4}$	

From

From estimated value of produce (before stated) being	Rupees	1,52,39,472	8	14	0	From the Political
Deduct estimated charges and expenses.....		1,35,11,470	11	1	1¾	Resident at Benares,
Remains estimated profit (on bigahs 3,77,996 14 5)		17,28,001	13	13	2¼	20th April 1793.
Or one bigah.....	Rupees	4	9	10	3½	

99. Thus the average estimated profit per bigah comes to Benares rupees 4 9 10 3½ (even on the ground stated in the 98th paragraph), and on the whole cultivation on five years to B. Sa. Rs. 17,28,001 13 13 2¼. But from the circumstances stated in a former part of this Report, it is a truth confirmed by the cultivators themselves, that they derive a far greater advantage or gain per bigah, than the medium estimated rate above specified; and having taken particular pains to ascertain from many of the most respectable zemindars and ryots the several degrees of profit usually reaped by them from the culture of the cane in the different soils they allot to it, the subsequent details form the result of the information obtained on the subject, and I have reason to believe the estimates are calculated at rates considerably less than those of the actual profits of the ryots would turn out to be, could they be positively or correctly ascertained. For it may be easily supposed, that notwithstanding every attempt to this end on my part, the natural jealousy of the cultivators must have occasioned in their minds an extraordinary degree of reserve, and of caution in the answers given by them on the subject of their own advantage, the more particularly, as the measure necessarily adopted in the procuration of proper documents for this inquiry, gave rise to an opinion (however ill-founded) amongst them, that a monopoly would probably be established in this branch (similar to that of the opium), and hence it is not surprising, they should wish to conceal as much as possible the real extent of that profit, which if candidly communicated, might from its magnitude (according to their mode of reasoning) accelerate an event so much to be dreaded by them.

From a Bigah of the best sort,	Rupees	30	0	0
From a ditto of the 2d ditto,	ditto	25	0	0
From a ditto of the 3d ditto,	ditto	20	0	0
From a ditto of the 4th ditto,	ditto	15	0	0
From a ditto of the 5th ditto,	ditto	10	0	0
From a ditto of the 6th ditto,	ditto	8	0	0
From a ditto of the 7th ditto,	ditto	5	0	0
Total from seven Bigahs,	Rs.	113	0	0
or for one Bigah,	Rs.	16	2	5

100. Hence Bigahs 3,77,996 14 5 at Rs. 16 2 5 per bigah amount to Rs. 61,01,103 3 3, or for one year Rs. 12,20,220 10 4, and there can be no doubt, but during the present period the annual profit must amount to a much larger sum, when it is considered that the increase of cultivation and the demands for sugars are, in these respects, far beyond whatever was formerly experienced in this province.

101. I shall now proceed to give an account of the mill used for grinding the canes in this country, and also of the processes observed in the manufacture of sugar.

102. At the proper season, which generally falls out in ten, eleven, or thirteen months at the utmost, the canes are cut down close to the roots and immediately transported to the mill, where they are again cut up into small pieces, about two inches in length, and then thrown in.

103. The mill made use of in this part of the country is uncommonly simple in its principle, but of so singular a kind as renders its description very difficult without a plate.

104. It consists of a stone cylinder, of eight feet in length and two feet in diameter, one end of which is hollowed out to the depth of eight inches, in form of a common tea-bason, in which the power plays which bruises the cane.

This stone is sunk perpendicularly into the earth. A long lever, generally about eleven feet, having its lower end rounded, and in size about the diameter of the bason, is then placed in it, nearly in a vertical position, and in which it is retained by a small rod which fits upon its upper end, and hangs down till it reaches another lever which plays horizontally round the stone, exactly in the manner of the gaff of a sloop. This last lever is twelve feet long, and to its extremity the bullocks are yoked. These going in a circle round the stone, motion is communicated, by means of the upright rod, to the lever which works in the bason, exactly like the ball and socket in astronomical instruments. The juice is gradually expressed from the cane, and which running through a small hole at the bottom of the bason, is conveyed along a hollow groove to the boilers, wherein, without the addition of lime, ashes, or any thing under the denomination of temper, as practised in the West-Indies, it is boiled into a coarse raw sugar, known by the names of gour or bhelie and raab.

105. In the preceding paragraph it has been stated that two kinds of coarse sugar, gour or bhelie and raab, are made from the cane-juice; raab is made as follows.

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106. The juice is conveyed from the mill as it is expressed, into either earthen or iron boilers over a fire, where it is kept hot during the day, with a view to prevent its growing sour. In the evening it is emptied into naunds (or large earthen pots similar to those made use of in England,) placed on the ground, where it remains till the following morning. In the boiling-house is placed a large iron kurau or boiler, and four or five earthen ones connected with it, all on one fire-place, the iron one being nearest the mouth, where the fuel is supplied, as in the West-Indies. Early in the morning the juice is put into these vessels, and a fire lighted under them, and while it is heating it is depurated with the juice of a plant called doolah (a species of mallows which is planted amongst the sugar-canes for that purpose), by constantly skimming it whilst it simmers; the heat is then increased, and as the watery parts evaporate in the different boilers. It is laden from the one to the other onwards to the iron one, so as always to keep it full, the fire under which is such as to keep it boiling briskly till brought to a proper consistency, when it is conveyed into a naund and beaten with a thick stick (of the palma-christi tree) till cool, or properly grained. It is then taken out of the naund and put by, or made into cheenee, as follows.

107. About five maunds of raab is tied in a latah (i. e. a double piece of gurrah cloth, of about five yards long), and placed on two sticks on the mouth of a naund, where it remains about fifteen days for the molasses to drain from it, which is received in the naund below. This latah is then opened and spread on a piece of taat, or coarse canvas, in the sun, where it is trodden by people with their naked feet, till all the lumps are broken and the grain of the sugar appears white and smooth, which will be in great measure in proportion to the time and labour bestowed on it. This is called khaur or shuckur, and is the second process towards making the cheenee; and its product is called pucka cheenee, or the best powdered sugar. It is made into this sort in the following manner.

108. About three maunds of khaur or shuckur is dissolved in a sufficient quantity of water over the fire to make a syrup, which is kept gently simmering, while the manufacturer is sprinkling it with milk and water, by means of a rag tied to the end of a rod, which is supplied by a vessel placed close to the boiler. About one-sixth part of this mixture is milk, and being thus applied prevents the syrup's boiling, and causes the scum to rise on the surface, from whence a man is constantly skimming it. When it is sufficiently purified the fire is increased and continued till the sugar is become of a proper consistence, and then it is laden into naunds properly situated for placing receivers under them, with a hole in the bottom of each, which at first is stopped with a peg: when cold the peg is taken out, to allow the molasses to drain, and a quantity of the grass called sewar, which is found in the beds of rivers and rivulets, is laid over the surface of the sugar, to the thickness of about an inch and a half, where it remains eight or ten days, when it is taken off and the upper part of the sugar found white and clean. The sewar is then replaced on the surface of the remainder, which is treated in the same manner, till all that remains is clean, the molasses draining through the bottom into the receiver. This part of the process is, I understand, similar to that of making clayed sugar in Barbadoes. The sugar thus prepared is now laid on taat in the sun, where it is trodden for a considerable time by men with their naked feet. It is afterwards sifted, to take any lumps or bits of grass that may remain, out of it.

109. Since there has been so great a demand for cheenee in the Ghazeepoor district, the above method is mostly neglected, for the more expeditious one that follows.

110. Cheenee is now manufactured at Ghazeepoor principally from bhelee, or lump sugar. The juice of the cane is conveyed immediately from the mill to the boiler, where it is boiled, without any depuration or purification whatever, to a proper consistence. The boiler is then taken off the fire and placed on the ground, where it remains till cold, when it is made into large lumps or balls with the hands, and is ready for sale. This is called bhelee, and this is the state in which refiners receive it from the ryots, and make it into cheenee as follows. The bheelee is dissolved in a sufficient quantity of water over the fire, to make it into a syrup of a proper consistence; and in simmering is sprinkled with milk and water by means of a rag tied to the end of a rod, and skimmed, as in the former process. It is then taken off the fire, and strained through a cloth into naunds, from whence it is returned again into the boiler, and boiled over a brisk fire to a due consistence, which is known by the appearance of the grain on the ladle or stirring-rod. Then about four ounces of the seed of palma-christi, husked and bruised, and about a pound of cheenee are sprinkled upon the surface of it, after which it is removed from the fire and put into naunds, perforated (as before stated) and fitted with pegs, and so placed as to admit of the molasses draining from them. When cold the pegs are taken out, and the sewar, or water grass, laid on the top of them for eight or ten days, as in the former process, when what is white and purified is removed and the sewar replaced, till the whole is become of a good colour. It is then spread on taat in the sun, where it is trampled with men's feet, picked, and sifted, &c. when it is fit for sale.

111. There is an inferior kind of cheenee made from the ordinary bhelee, skimmings, and molasses, &c. after the other is sold and sent to market; a variety of spirituous liquors, called daroo, thewrah, &c. are also distilled from the molasses, and consumed throughout the zemindarry.

It

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It now becomes a question as before, how far an European might attempt the manufacture of sugar to advantage, and upon the West-India plan? and here the same difficulties occur which were suggested in treating this question under the head of Cultivation; the heavy expense of fitting up a set of sugar-works, the high daily wages and superintendance, all which would only be surmounted by great superiority in point of produce and quantity. With respect to the introduction of mills and other machinery, the hot winds of this country, and more particularly the state of the arts, seem to form an insurmountable bar.

112. How far the West-India modes of boiling and preparing the sugar, the use of lime, ashes, &c. may be improvements, and might be introduced with advantage, can only be ascertained by a series of experiments, conducted by an experienced sugar-boiler. It certainly is a point of the greatest importance, to ascertain how it happens that the fine cheenee of this province, with so little trouble and expense, should be so close a resemblance to the clayed sugars of Barbadoes, produced from the combination of vegetable and argillaceous substances, and by a tedious and very expensive process.

113. I shall now proceed to state the *Exports in Sugars the produce of this Zemindary* during a period of five years, or from the beginning of 1195 Fussily (or 1787-8) to the end of 1199 (or 1791-2).

114. And here (as it is required to state the amount of the exports in Calcutta bazar maunds) it may not be improper to specify the several Benares weights, and the differences between them and the bazar standard at the Presidency. It is, in the first place, necessary to premise, that the Beoparies here deem a seer, weighing Benares Sicca Rupees 81 8, equal to one of Calcutta Siccas 80; and on this ground the said differences have been calculated.

Benares weight .....Bs.Sa.Rs.	84	6	to the seer	
Deduct	81	8	(equal to one seer, Calcutta bazar weight).	
Remains surplus .....per seer	2	14		
Ghazeepoor weight.....Bs.Sa.Rs.	100	0	to the seer.	
Deduct (as before)	81	8		
Remains surplus.....per seer	18	8		
Juanpoor, Do. Do. Do.				
Mirzapoor weight .....Bs.Sa.Rs.	97	8	to the seer.	
Deduct (as before)	81	8		
Remains surplus .....per seer	16	0		

115. The accounts No. 8 and No. 8 A, will shew the exports in cheenee (the produce of this province), and to what quarters exported, together with the amount thereof, according to the Benares and Calcutta bazar weights, during the said period of five years, and of which the following is an abstract.

Cheenee.

1.	Exports in 1195, or 1787-8 .....Maunds of Sorts	76,074	33	2	
2.	Do.....1196, or 1788-9	87,492	26	1	
3.	Do.....1197, or 1789-90	1,24,819	18	8	
4.	Do.....1198, or 1790-1	1,69,313	22	0	
5.	Do.....1199, or 1791-2...	1,70,352	13	12	
	Total maunds of sorts.....	6,28,052	33	7	
Add:—Increase of weight to make Calcutta bazar maunds (according to account No. 8 A) .....Maunds		1,27,790	25	11	11
	Remain, Calcutta Bazar Maunds	7,55,843	19	2	11

The valuation upon which duties (at 5 per cent.) were collected upon the above quantity, amounts as per account No. 8, Benares Sicca Rupees 38,10,793 9 9, and the total of the said duties comes to Rupees 1,90,543 9 3.

116. And here I think it my duty particularly to point out to the observation of Government, a circumstance which will afford the greatest satisfaction. In 1195 Fussily or 1787-8 the exports in cheenee amounted to only maunds of sorts 76,074 33 2
But in 1199 or 1791-2 they consisted of .....Maunds of sorts 1,70,352 13 12
Hence the increase comes to .....Maunds 94,277 2 10

117. The causes of this great increase are very obvious. They have arisen 1st, from the entire abolition of all the various, and in some degree indefinite Rad-darry duties formerly collected in this zemindary (as most ably detailed in Mr. Barlow's report); 2dly, from the establishment of the regulations for the customs, which were issued on the

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the 29th of March 1788; 3dly, from the steady and impartial administration of justice; and 4thly, from the salutary effects of the settlement made in 1196 Fussily, or 1788-9, and subsequently of the decennial one in 1197 or 1789-90. These settlements, by annihilating all the numerous aboabs formerly collected from the ryotts; by destroying the many avenues to exactions heretofore committed upon them, originating from the uncontrolled rapacity of amils annually chosen; and by inspiring that confidence which naturally arises to the cultivator from his experiencing the blessings of a permanent tenure; were the happy means of infusing a spirit of extraordinary industry and exertion amongst the ryotts in general, and of producing consequences truly valuable and gratifying; such indeed as reflect the highest credit on the wise and liberal policy, that formed and adopted the measures which have occasioned them. These, it may be truly said, have placed the zemindarry of Benares in a situation of the most flourishing prosperity, in respect both to cultivation and commerce.

118. Yet those measures, howsoever wisely planned or maturely digested, would have lost more of their efficacy, if the hand to whose charge the execution of them was committed had not had a degree of exertion answerable to the zeal which originally dictated them. But in this respect they were truly fortunate; as in every instance and direction, Mr. Duncan's conduct exhibited the utmost ardour and indefatigability, for the establishment, security, and permanency of that public prosperity, which the benevolent views of Government were so solicitous to effect.

119. By the preceding abstract it is shewn, that the exports in cheenee during five years come to maunds of sorts 6,28,052 33 7, or to Calcutta bazar maunds 7,55,843 19 2 11; of this quantity the amount exported to the Eastward or Behar and Bengal was Maunds of sorts 3,17,470 12 5, or Calcutta Bazar Maunds 3,86,727 2 9 6¾, being nearly one-half of the whole exports in this article, (the produce of the zemindarry). Those to the Deccan were maunds of sorts 2,78,534 29 4, or Calcutta bazar maunds 3,29,534 2 12 8¼.

120. The accompanying statements No. 9 and 9 B will shew the exports in shukhur, or coarse brown sugar, the produce of the zemindarry, during the period in question, and of which the following is an abstract:—

Shukhur.

1st. Exports in 1195 or 1787-8	Maunds of sorts	7,037	28	4	0
2d. Do.....1196 or 1788-9		8,694	31	4	0
3d. Do.....1197 or 1789-90.....		11,227	29	12	0
4th. Do.....1198 or 1790-1		10,316	26	2	0
5th. Do.....1199 or 1791-2		13,615	11	4	0
	Maunds of sorts	50,892	7	4	0
Increase of weight to make Calcutta bazar maunds as per account No. 9 B.....		9,179	38	11	3
	Remains Calcutta bazar maunds	60,072	5	15	3

Of the above quantity, the amount of maunds of sorts 20,279 6 2, Calcutta bazar maunds 24,600 27 12 4¼ was exported to the Eastward or Behar and Bengal.

121. The statement No. 10 and No. 10 C exhibits an account of the Exports in raab, (a sort of raw sugar of an inferior kind and explained in a former part of this report), from the beginning of 1195 Fussily, to the end of 1199, as exported from the different Custom-houses.

Raab.

1st. Exports in 1195 or 1787-8	Maunds of sorts	0	0	0	0
2d. Do.....1196 or 1788-9		799	25	0	0
3d. Do.....1197 or 1798-90		946	27	8	0
4th. Do.....1198 or 1790-1		2	16	0	0
5th. Do.....1199 or 1791-2		0	0	0	0
	Maunds of sorts	1,748	28	8	0
Add:—Surplus to make Calcutta bazar maunds as per account No. 10 C.....		396	33	1	6½
	Calcutta bazar maunds	2,145	21	9	6½

The amount exported to the Eastward appears to have been, maunds of sorts 1,731: 12, or Calcutta bazar maunds 2,125 4 9 10.

122. The exports in jagree (or gour and bhelie) the produce of this zemindarry, appear from accounts No. 11 and No. 11 D, of which the following is an abstract:

Jagree.

1st. Export in 1195 or 1787-8...	Maunds of sorts	18,976	22	4	0
2d. Do.....1196 or 1788-9.....		32,816	11	13	0

(Continued.)

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Continued.

3d. Export in 1197 or 1789-90	Maunds of sorts	58,350	21	1	0
4th. ..... 1198 or 1790-1	.....	55,023	21	8	0
5th. ..... 1199 or 1791-2	.....	45,002	19	9	0
	Maunds of sorts	2,10,169	16	3	0
Add:—Surplus, to make Calcutta bazar maunds, as per Account No. 11 D		32,403	21	1	14
Total, Calcutta bazar maunds		2,42,572	37	4	14

Of the preceding total the amount of Maunds of sorts 57,536 11 7, or Calcutta bazar maunds 68,340 24 10¼, were exported to Behar and Bengal.

133. The exports in joossee (a species of molasses) are detailed in Accounts No. 12 and No. 12 E, and the following is an abstract thereof:—

Joossee.

1st. Exports in 1185 or 1787-8	Maunds of sorts	10,130	11	14	0
2d..... 1196 or 1788-9	.....	15,287	16	11	0
3d..... 1197 or 1789-90	.....	30,357	34	5	0
4th. ..... 1198 or 1790-1	.....	19,382	19	12	0
5th. ..... 1199 or 1791-2	.....	10,620	23	6	0
	Maunds of sorts	85,778	26	0	0
Add: Surplus to make Calcutta bazar maunds as per Account No. 12 E		19,343	13	9	13
	Calcutta bazar maunds	1,05,121	39	9	13¾

Of this quantity exported the amount to the eastward was Maunds of sorts 82,345 4 14, or Calcutta bazar maunds 101,033 10 8 7¼.

124. I shall now submit the following abstract of all the exports in sugars (the produce of the zemindarry of Benares) during the period in question:—.

Abstract.

	Maunds of Sorts.			Difference of Weight.				Calcutta Bazar Maunds.			
Total Exports in Cheenee during five Years. ...	6,28,052	33	7	1,27,790	25	11	11	7,55,843	19	12	11
Do. do. in shukhur	50,892	4	0	9,179	38	11	3	60,072	5	15	3
Do. do. in raab.....	1,748	28	8	396	33	1	6½	2,145	21	9	6½
Do. do. in jagree	2,10,169	16	3	32,403	21	1	14	2,42,572	37	4	14
Do. do. in joossee	85,778	26	0	19,343	13	9	13¾	1,05,121	39	9	13¾
Total maunds	9,76,641	31	6	1,89,114	12	4	0¼	11,65,756	3	10	0¼

Custom-House valuation of the preceding Exports.

					Duties.			
Cheenee .....:....Rupees	18,10,793	9	9	.....	1,90,543	9	3	
Shukhur.....	1,43,389	10	9	.....	7,171	11	0	
Raab	5,450	7	0	.....	272	9	3	
Jagree	3,57,809	10	0	.....	17,895	5	3	
Joossee - - -	71,802	0	9	.....	3,591	1	9	
Total, Rupees	43,89,245	5	6	Rupees	2,19,474	4	6	

Of the total quantity of exports the following amount was exported to Behar and Bengal, *viz.*

	Maunds of sorts.			Difference of weight.				Calcutta Bazaar maunds.			
Cheenee in five years,	3,17,470	12	5	69,256	30	4	6¾	3,86,727	2	9	6¾
Shukhur.....do.....	20,279	6	2	4,321	21	10	4¼	24,600	27	12	4¼
Raab .....do.....	1,731	38	12	393	5	13	10	2,125	4	9	10
Jagree .....do.....	57,536	11	7	10,804	13	3	10¼	68,,340	24	10	10¼
Joossee .....do.....	82,345	4	14	18,688	5	10	7¼	1,01,033	10	8	7¼
Total, Maunds	4,79,362	33	8	1,03,463	36	10	6½	5,82,826	30	2	6½

125. In order to shew the rapid increase in the exports of sugars (the produce of this zemindarry), I shall here submit the amount of them in 1193 (or 1785-6), extracted from the Appendix to Mr. Barlow's very excellent and able Report on the Trade of Benares), and that of the exports in 1199 or 1791-2:

Exports of the various kinds of sugars in 1199 or 1791-2, Maunds of sorts	2,39,590	28	9
Do. of the various do. do. in 1193 or 1785-6	68,261	9	0
Increase, Maunds	1,71,329	19	9

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Again,

The exports in 1199 or 1791-2 to Behar and Bengal, amounted to
Maunds of sorts 1,25,135 17 6
And in 1193 or 1785-6 they wereonly 16,432 34 8

Increase, Maunds 1,08,702 22 14

126. I trust that the preceding statements will exemplify in the completest manner, that the liberal measures stated in the 118th and 119th paragraphs of this report, have had all the salutary effects which the most sanguine mind could have conceived them capable of producing in so limited a period of time.

127. I shall now submit the imports in cheenee for immediate exportation during the period in question, and these will be found detailed in Accounts No. 13 and 13 F. in the accompanying Appendix.

Abstract.

Imports from the Northern for immediate exportation to the Western provinces in 1195 or 1787-8 .....Maunds	1,845	2	8		
Do..... in 1196 or 1188-9.....	2,218	13	2		
Do..... in 1197 or 1189-90	1,796	22	8		
Do..... in 1198 or 1190-91	949	34	4		
Do..... in 1199 or 1191-2	978	10	0		
				7,788	2 6
Imports from the Northern Provinces for immediate exportation to the Deccan, in 1195 or 1787-8,.....Maunds	974	30	0		
Do..... do. ..... in 1196 or 1788-9, ...	353	17	0		
Do..... do. ..... in 1197 or 1789-90, ...	85	0	0		
Do..... do. ..... in 1198 or 1790-1, ...	4	0	0		
Do..... do. ..... in 1199 or 1791-2, ...	4	13	4		
				1,421	20 4
Imports from Do. for exportation to Behar and Bengal, in 1195 or 1787-8, ...Maunds	894	17	8		
Do..... do. ..... in 1196 or 1788-9, ...	712	6	14		
Do..... do. ..... in 1197 or 1789-90,.....	584	20	0		
Do..... do. ..... in 1198 or 1790-1, ...	215	10	0		
Do..... do. ..... in 1199 or 1791-2, ...	3,032	15	0		
				5,438	29 6
Imports from Do. to Do. to the Northern Provinces, in 1195 or 1787-8 .....Maunds	4	0	0		
Do..... do. ..... in 1196 or 1788-9, ...	210	29	8		
				214	29 8
Imports from the Western Provinces for exportation to Behar and Bengal, in 1198 or 1790-1.....Maunds				723	24 0
Imports from the Eastward for immediate exportation to the Deccan, in 1198 or 1790-1, ...Maunds				29	30 10
Maunds of sorts				15,616	16 2

The valuation of the above quantity, as contained in the rowannahs, comes to Rupees 1,00,370 8 3. Thus the imports for exportation appear to have been very inconsiderable, not having exceeded Maunds of sorts 15,616 16 2, or Calcutta Bazar Maunds 19,118 38 6 7, of which Maunds 7,525 25 4 were exported to Behar and Bengal.

128. Accounts No. 14 and No. 14 G, specify the imports in shukhur for immediate exportation.

Abstract.

Imports from the Northern, for immediate exportation to the Western Provinces, in five years .....Maunds	1,10,716	8	8	0	
Imports from the Do. for Do. to the Deccan.....	9,693	25	0	0	
Imports from the Do. for Do. to Behar and Bengal.....	4,990	26	2	0	
Imports from the Northern Provinces for immediate exportation thereto	235	36	4	0	
Imports from the Western Provinces, for immediate exportation to Bengal and Behar	111	10	0	0	
Maunds of sorts,	1,25,752	17	14	0	
Add:—Surplus to make Calcutta Bazar Maunds, as per Account No. 14 G.....	28,539	22	7	3	
Calcutta Bazar Maunds	1,54,292	10	5	3	

The

The rowannah valuation of the preceding quantity was Rupees 3,82,639 2 6 The exports to the eastward were Maunds 3,897 1 2, or Calcutta Bazar Maunds 4,776 9 11 8. From the Political Resident at Benares, 20th April 1793.

129. The imports in bhelie or gour (jagree) for immediate exportation appear to have been very inconsiderable. They are detailed in Appendix No. 15, and No. 15 H.

Abstract.

Imports from the Northern Provinces for immediate exportation to Bengal and Behar, in five years .....Maunds	1,570	0	0	0
Do.....do.....do. to the Western Provinces.....	97	37	8	0
Do.....do.....do. to the Deccan.....	19	30	0	0
Do.....do.....do. for immediate exportation thereto	77	10	0	0
Do. from the Eastward Do. to the Western Provinces	2	30	0	0
Maunds of sorts	1,767	28	8	0
Add :—Surplus, to make Calcutta bazar maunds, as per Account No. 15.	403	27	14	7
Calcutta bazar maunds...	2,171	15	6	7

The rowannah valuation amounted to Rupees 2,799 7 3.

The exports to Bengal and Behar were Maunds of sorts 1,570, or Calcutta bazar maunds 1,926 15 3 7.

130. Appendix No. 16 and No. 16 I. state the imports in joosee for immediate exportation.

Abstract.

Imports from the Northern, for immediate exportation to the Western Provinces, in five years .....Maunds	88	27	8
Add :—Surplus weight, to make Calcutta bazar maunds, as per Account No. 16 I.....	20	4	8¾
Calcutta bazar maunds...	108	31	8 8¾

The Rowannah valuation comes to Rupees 62 13 6.

General Abstract of Imports in Sugars for immediate Exportation.

					Difference of Weight.				Calcutta Bazar Mds.			
Chenee in 5 years Maunds of sorts ..	15,616	16	2		3,502	22	4	7	19,118	38	6	7
Shukhu.....do.....do.	1,25,752	17	14		28,539	22	7	3	1,54,292	10	5	3
Jagreer.....do.....do.	1,767	27	8		403	27	14	7	2,171	15	6	7
Joossee.....do.....do.	88	27	8		20	4	0	8¾	108	31	8	8¾
Maunds	1,43,225	19	0		32,465	36	10	9¾	1,75,691	15	10	9¾

The total rowannah valuation appears to have been Rupees 4,85,871 15 6, and the duties 23,666 3 3.

131. Of the preceding total of Maunds 1,75,691 15 10 9¾ the following quantity was exported to Behar and Bengal:

Cheenee.....Calcutta bazar maunds.....	7,525	25	4	11¼
Shukhur.....Do.....	4,776	9	11	8
Jagree .....Do.....	1,926	15	3	7
Total Calcutta bazar maunds	14,228	10	3	10¼

132. The imports in cheenee, the produce of other countries, for the consumption of this zemindarry, from the beginning of 1195 or 1787-8 to the end of 1199 or 1791-2, are detailed in Appendix No. 17, and 17 K.

Cheenee.

Imports from the Northern Provinces during five years .....Maunds	28,994	1	4
Do. from the Eastward do.....	28	0	0
Maunds	29,022	1	4
Add :—Surplus weight, to make Calcutta bazar maunds.....	6,581	18	10 15½
Calcutta bazar Maunds.....	35,603	19	14 15½
Rowannah valuation, Rupees	1,97,438	2	6

133. The amount of shukhur imported during the said period is detailed in Appendix No. 18, and No. 18 L.

Shukhur

Shukhur.

From the Political Resident at Benares, 20th April 1793

Imports from the northward.....Maunds	1,02,944	25	12	0
Do. from the eastward	25	30	0	0
Do. from the westward.....	14	20	0	0
Do. from the southward	3	10	0	0
Maunds of sorts	1,02,988	5	12	0
Add :—Surplus weight, to make Calcutta Bazar Maunds.....	23,370	39	11	2½
Calcutta Bazar Maunds	1,26,359	5	7	2½
Rowannah valuation, Rupees	3,03,740	10	3	0

134. Appendix No. 19 and 19 M specify the imports in

Raab.

Imports in five years from the northward .....Maunds	220	8	0	0
Add :—Surplus weight to make Calcutta Bazar Maunds.....	49	39	5	12½
Calcutta Bazar Maunds	270	7	5	12½
Rowannah valuation, Rupees	331	9	0	0

135. The imports in jagree (or gour) are specified in Appendix No. 20 and No. 20 N.

Jagree.

Imports from the eastward in five years for the consumption of the zemindarry ..... Maunds	687	1	4	0
Imports from the Northern Provinces 29,512	15	14	0	
Do. from the Deccan.....	51	18	0	0
Maunds of sorts	30,250	35	2	0
Add :—Surplus weight to make Calcutta Bazar Maunds.....	6,708	11	7	5
Calcutta Bazar Maunds	36,959	6	9	5
Rowannah valuation, Rupees	67,207	7	9	0

136. Appendix No. 21 and No. 21 O detail the imports in joosee for five years.

Joosee.

Imports from the Northern Provinces.....Maunds	3,286	26	2	0
Add :—Surplus weight to make Calcutta Bazar Maunds	746	2	1	0
Calcutta Bazar Maunds	4,032	28	2	1
Rowannah valuation, Rupees	2,738	13	3	0

General Abstract of Sugars imported for the Consumption of the Zemindarry during Five Years.

		Difference of Weight.	Calcutta Bazar Mds.
Chenee .....Maunds of sorts	29,022 1 4	6,581 18 10 15½	35,603 19 14 15½
Shukhur	1,02,988 5 12	23,370 39 11 2½	1,26,359 5 7 2½
Raab..	220 8 0	49 39 5 12½	270 7 5 12½
Jagree	30,250 35 2	6,708 11 7 5	36,959 6 9 5
Joossee	3,286 26 2	746 2 0 1	4,032 28 2 1
Maunds	1,65,767 36 4	37,456 31 3 4½	2,03,224 27 7 4½

Rowannah valuation and duties.

Cheenee .....Rupees	1,97,438 2 6	..... Duties	9,667 5 0
Shukhur..... Do.	3,03,740 10 3	.....	15,189 10 6
Raab ..... Do.	331 9 0	.....	16 9 6
Jagree ..... Do.	67,207 7 9	.....	3,338 2 6
Joossee ..... Do.	2,738 13 3	.....	138 5 9
Total, Rupees	5,71,456 10 9	Duties	28,350 1 3

137. The

137. The following statement is an abstract, 1st of sugars of all kinds (the produce of this zemindarry) exported during five years; 2d of sugars imported for immediate exportation; and 3d of sugars imported for the consumption of this province.

From the Political Resident at Benares, 20th April 1793.

General Abstract.

	Mds. of Sorts.	Diff. of Weight.	Calcutta Baz. Mds.	Rowannah Val. Rs.	Duties. Rs.
1st. Exports in Sugars of all kinds, the produce of zemindarry of Benares	9,76,641 31 6	1,89,114 12 0 4¼	11,65,756 3 0 10¼	43,89,245 5 6	2,19,474 4 6
2d. Imports for immediate Exportation ..	1,43,225 19 0	32,465 36 10 9¾	1,75,691 15 10 9¾	4,85,871 15 6	23,666 3 3
3d. Imports for the consumption of Benares	1,65,767 36 4	37,456 31 3 4½	2,03,224 27 7 4½	5,71,456 10 9	28,350 1 3
Maunds	12,85,635 6 10	25,90,37 0 1 14½	15,44,672 6 11 14½	54,46,573 15 9	2,71,490 9 0

138. In order to shew the actual balance in favour of the Benares exports in sugars during five years, the following short statement is here submitted.

Benares exports in sugars brought down Calcutta bazar Maunds	11,65,756 3 0 10½	Rs. 43,89,245 5 6	
Deduct:— Imports in sugars the produce of other countries for the consumption of the zemindarry ..... Calcutta bazar Maunds	2,03,224 27 7 4½	5,71,456 10 9	
Balance in favour of the zemindarry	9,62,531 16 2 11½	38,17,788 10 9	

139. The following abstract will shew the amount sugars exported to Behar and Bengal during five years, and also that imported from those quarters during the said period.

1st. Export in sugars the produce of the zemindarry of Benares.....Calcutta Bs. Maunds	5,82,826 30 2 6½	
2d. Imports for immediate exportation to the eastward.....	14,228 10 3 3¼	
Total maunds	5,97,055 0 5 9¾	
Deduct:— 1st. Imports from the eastward for immediate exportation .....Maunds 32 20 10		
2d. Do. from do. for consumption of Benares 740 31 4		
	773 11 14 0	
Remains, Maunds	5,96,281 28 7 9¾	

140. The probable or estimated amount of the consumption of sugars in this zemindarry now remains to be stated. I say probable, because it will be obvious to your Lordship, that as so great a quantity is produced and manufactured therein, and as all the former internal duties have very wisely been abolished, it is impossible for me to submit any accurate account of the real consumption: for the only documents which could have afforded any correct knowledge of the extent of it, would have been those of the Randarry and Chokeydarry stations; and as these no longer exist, it appears to me that the opinions of the most respectable native merchants in this district are the only channels now left, by which an estimate can be formed on the subject.

141. In the 96th paragraph of this report, I submitted an estimate, "in order to shew the quantity of pucka cheenee, or the best sort of fine powdered sugar, that the preceding amount of estimated produce (specified in paragraphs 90, 91, 92, 93, 94 and 95) would be capable of yielding, supposing the whole to be manufactured" into sugar of that quality.

The amount thus estimated comes to (for five years)		Maunds	14,42,790 12 0 0
It has been shewn that the exports in cheenee the produce of this zemindarry amounted (during the said period) to Maunds	7,55,843 19 2 11		
From this deduct the imports for the consumption of the zemindarry.....	29,022 1 4 0		
			7,26,821 17 14 11
Remains, Maunds (for five years)			7,15,968 34 1 5
Or for one year, Maunds	1,43,193 30 13 1		

142. I have inserted the preceding statement merely to give some kind of idea of the *probable* consumption of the zemindarry. From the information I have received from the merchants and dealers in different parts of the country, I am induced to think that the annual consumption of cheenee must amount to about 1,20,000 maunds Calcutta

 weight,

From the Political Resident at Benares, 20th April 1793.

weight, exclusive of shukhur, and of the inferior sorts of coarse raw sugars, termed gour, bhelie, and raab, together with molasses, &c. &c.

143. When the very great population of the city of Benares, in particular, and of the zemindarry in general (the whole having been estimated on a former occasion, by Mr. Duncan, at 29,11,556), is duly considered, it seems to me that the above estimate of 1,20,000 maunds of cheenee is calculated on the most reasonable grounds. The Mahammedan natives of this province constitute but a small number when compared to that of the Hindoos, and it is well known that amongst the latter, from the nature of their usual diet and mode of living the consumption of sugars of all kinds is exceedingly great.

144. The present enhanced prices of sugars, in consequence of the exportation thereof to Europe, is a circumstance highly favourable to the cultivators of the cane, and also to Government: for it enables the former to pay with the utmost ease, not only the jumma of their cane-lands, but likewise, if not the whole, at least the greatest proportion of the rental of their barley fields, &c. Conscious of this manifest advantage, and happy and secure under the tenures of the permanent settlement, the cultivation of the cane is rapidly increasing; and will, there is every reason to believe, continue to do so, under the influence and protection of a system, founded on principles of the wisest and most liberal policy.

I have the honour to remain, &c.

Benares, the
20th of April, 1793.

P. Treves,
Acting President.

Extract Letter from Bengal Board of Trade, 31st January 1793.

Letter from Board of Trade, 31st Jan. 1793.

20. We think it proper to mention, for the information of the Honourable Court, that Mr. Paterson, the contractor for sugar, who in our address to your Lordship of the 31st August, we reported to have failed in procuring some land he was desirous of having in the Beerbhoom district for the purposes of his contract, has, under date the 8th of December, advised us he has at length succeeded in procuring some; but, in respect to a supply of sugar, he cannot as yet say at what period, or in what quantity, he shall be able to effect it, nor has he yet told us what quantity of land he has procured. On this occasion we take the liberty of requesting the Honourable Court's attention to our letter of the 11th September 1792 to your Lordship in Council, respecting the quality of Beerbhoom sugar as long manufactured by the natives.

This letter is not material and therefore not printed.

Extract Bengal Commercial Consultations, 8th February 1793.

Read a letter from Mr. Fitzmaurice.

Bengal Commercial Consultations, 8th Feb. 1793.

Sir:— I have the pleasure to inclose you a letter to the Honourable Court of Directors, to be laid before the Honourable Governor-General in Council, for previous inspection.

I have the honour to be, &c.

6th February 1793. Wm. Fitzmaurice.

Ordered, That the memorial from Mr. Fitzmaurice be transmitted to the Honourable Court of Directors, and a copy of it be entered in this place. Another copy is to be sent to the Board of Trade.

To the Honourable Court of Directors for Affairs of the Honourable United Company of Merchants of England trading to the East-Indies:

Honourable Sirs:

Mr. Fitzmaurice's Memorial.

The source of the wealth now opened to you by the present opportunity of encouraging the sugar manufactories in Bengal to be carried on by the process practised in the West-Indies, in making, curing, and claying it, renders incumbent on every man who possesses knowledge of the subject to display it, so as that the nation may profit by it.

I have therefore thus presumed to address you, Honourable Sirs, in order to display those points upon which the sugar trade of your provinces in India must

Bengal Commercial Consultations, 8th Feb. 1793.

Mr. Fitzmaurice's Memorial.

must either rise to the importance which they are capable of being brought to, or prove injurious to your interest and ruinous to the laborious inhabitants of your provinces.

Having lived in Jamaica sixteen years, and during that period been employed in the cultivation and management of sugar estates both on the north and south sides of that island, I may venture to assert that I am a competent judge of the soil fit for planting sugar-cane, and how far it will answer for that cultivation.

All the ground I have seen here (Omiedpore excepted) and I am well informed the country throughout is mostly the same, consists of plains of excellent brick mould, which I assert to be the best for sugar, and in its natural state will yield from one to two tons per acre, by any tolerable care and attention to the West-India mode of clarification and boiling in the first process, which at present is unknown to the natives: their mode of expressing the cane-juice and making the jaggery (as they call it) being extremely unprofitable, unproductive, awkward, and tedious in its process.

From the luxuriance and fertility of this country, I think it is amply competent to the supply of all Europe with sugars, and that even the West-India planters themselves might import them from hence on much easier terms than they can afford to sell sugars in the curing-houses upon their plantations. Since my arrival in Bengal, I have inspected the process practised by the natives in making jaggery, which is as follows. A farmer or ryott erects his works adjoining to the field of cane fit to cut; the grinding, boiling and distill-houses are under the same roof, and that roof only a mat supported with four sticks stuck in the ground. The boiling utensils are four small earthen pots (called cudgeree pots, about the value of 2*d*. The cane serves for fuel; and the mill for expressing the juice from the canes consists of two small rollers, from four to six inches in diameter, turned in opposition to each other by two men. When the ryott finishes the field of cane, his coolies and himself take the whole set of works on their backs, and set them down at the next field which is to be cut; but their mode of expressing the canes is so exceedingly slow, that the juice acquires a degree of acidity that destroys not only a considerable portion of the saccharine particles, but contaminates the whole body that remains, and which afterwards cannot be corrected; indeed the cane-juice is in a forward state of fermentation before the process of boiling is commenced. The returns from those contaminated juices is the matter called jaggery, which in fact is the sugar, either too much or too little boiled, made from unclarified cane liquor in an injured state; this contaminated jaggery is put into close cudgeree jars and is fermented a second time. When a sufficient quantity is procured they carry it in leather bags fifteen, thirty, perhaps 100 miles, on their bullocks or by water, to a second class of sugar manufacturers, who purchase it on very low terms, from ten annas to one rupee per maund (80lb.) The second class of manufacturers boil it down once or twice again, and get ten seers of sugar (20lb.) from the maund of jaggery, whereas the first manufacturer might with the same fuel and labour make the maund of jaggery into sugar, so as to augment his quantity 60 per cent., save labour, and better the quality. The jaggery is collected and then boiled down into sugar by those numerous herd of intermediate traders called banians, sircars, peons, and jaggery merchants. The small quantity of jaggery and sugar which is not thus monopolized by these speculators and their representatives all over the country, is brought to the bazar of Calcutta, and is sold at the market prices. In this state the sugar appears of a soft greasy quality, owing to the vast quantity of milk and ghee given by the jaggery boilers, to recover the saccharine particles weakened and destroyed by the acquired acidity: hence this sugar forms into a coagulated mass on the voyage to Europe, and proves totally unfit for the sugar refiners and unprofitable to the consumers. The sweets from this fermented jaggery yield a spirit (which is here called rum) of a sour quality, quite different in flavour from that made in the West-Indies, the sweets being in an impure and partial fermentation before they are set for distillation.

The sugars from hence that I saw in London were in this soft, greasy, coagulated state, which shewed that they were made from contaminated cane-juice,

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juice, and not the pure juice as it ought to be had here, and which (from the quality of this soil) is the most grateful and rich that can be.

On my arrival in Bengal, I determined to try what kind of sugar could be produced from the canes managed in the Jamaica manner, that is, by carefully adopting the mode of guarding against acidity, and closely attending to the process of clarification; therefore crossed the Hoogly at Calcutta, and proceeded up the Benares road to the distance of three miles, when I came to a field of cane where the natives were making jaggery as already described. I bargained for a number of bundles of cane, for two annas per bundle, which was the price they were selling for at the bazar in the neighbourhood to the retailers from Calcutta, who brought canes to eat. I immediately sent my bearers to purchase me one of the country mills, which cost four rupees, four cugeree potts as boilers eight annas, a mat two annas, and thus I fully compleated my works in an hour; my bearers turned and fed the mill, and about four o'clock had made two skips of very fine strong-grained sugar, which upon claying appeared equal to the best St. Kitt's sugar.

The experiment I have frequently tried since with success before several gentlemen of this settlement, by which I have proved how ruinous it is to the first manufacturer to make the juice of his cane into jaggery. A sample of the sugars made in the first process of boiling with this awkward apparatus I will do myself the honour to send you by the next opportunity, which I hope will meet the full approbation of the sugar refiners in London.

The sugar-mills worked in the West-Indies ought to be erected in this country at convenient distances. They will do great execution worked by bullocks, buffaloes of those provinces; with those a quantity of juice can be expressed, so as to clarify and boil before it acquires any degree of acid. The process of clarification should be commenced at twenty minutes at furthest after the juice is expressed; and it is known in Jamaica as a matter of the greatest importance to keep the cane-liquor as sweet and as unaltered as possible, from the moment of its expression till the process of clarification begins, and every means is used there for conducting it in that free and unaltered state from the mill to the boiling-house; for should any old liquor lodge, it speedily acquires a degree of putresence, which must in course more or less infect the whole body of liquor.

The more I see of this luxuriant soil, the more I am convinced, Honourable Sirs, that you might annually export from Bengal any quantity of sugars, and a proportionable quantity of rum of a superior quality, without interfering in the smallest degree with the present cultivation and manufactories of Bengal. Indeed the waste land occupied by the tigers between this and Ingelee would produce nearly as much sugar as the island of Jamaica; and as to labour, thousands of labourers may be had by the day or week, month or year, at two annas per day, or three rupees per month, the highest hire given.

The fertility of the soil of this county is such that it does not require the labour of one-fourth of its inhabitants, therefore the cultivation of cane will employ thousands of poor people that are to be seen in all parts of this country in real want: and inasmuch as the cultivation of the sugar-cane destroys annually in the west thousands of men, women and children, by incessant toil, it will save the lives of thousands in the east, by giving them employment and sustenance.

The destruction by famines frequent in this country by the failure of the light crops of grain, is too well known to need any argument being made of it on this occasion; it needs only to be urged, that sugar and its slops with little else will support hundreds, and I may say thousands of families, as the drought of many months will not destroy that valuable and grateful plant.

The following plan I am well satisfied, if adopted here, would prove of the highest advantage to these provinces, and of the utmost public utility; the natives to be instructed in the West-India mode of raising cane, and in grinding, clarifying, and boiling in the first process, so as to insure your sugar the market at home, and thereby secure and establish a valuable branch of trade, for which purpose factories to be established in the different districts, at convenient

nient distances from each other. Adjoining to these buildings there should be kept under cane 1,000 biggahs, or 300 acres. This would employ daily, either by the day, month, or year, 150 or 200 of the poor natives called coolies, including tradesmen, at one anna and half per day, or three rupees the very highest per month. These 300 acres will make you 300 tons of sugar, worth in Bengal £25 per ton at least; say £700. I mean the strong white muscovado sugar, that will bring from 60*s.* to 70*s.* per cwt. in London. The 300 tons will net you a large sum of money at home, besides a proportion of rum, which if of a good quality will always command a market in Bengal, and will amply pay for the cultivation, and if double-distilled into fine cocoa-nut or peach rum, it would answer very well for exportation, as well as afford you the happy advantage of supplying your army and navy in India.

The rum at present used here is the pernicious spirits distilled by contracts, made (chiefly by the natives in cudgeree jars as cheapest) from the contaminated jaggery which is collected from far and near for those distilleries, and which produces rum equally sour and unwholesome as the very ingredients from which it is distilled.

Formerly, when distillation was but little known or attended to in the West-Indies, with respect to cleanliness or proportioning the different ingredients set, the rum was of such pernicious quality that those persons who used it, even in the smallest degree, were attacked with bowel complaints; many lost the use of their limbs, and they who drank it to any excess, such as the soldiers and sailors, were soon destroyed. But happily, at this period, that disease is not known, particularly in Jamaica, owing to the very great improvement made in the distillation of rum throughout the islands. Bad rum in India must be equally fatal to your armies and navy.

The buildings, consisting of boiling and distilling houses, mills, coppers, stills, cisterns, gutters, pumps, and tanks, with oxen, &c. &c. for each plantation of 300 acres, will cost about 30,000 rupees: for this sum you will have a factory equal to an estate in Jamaica, worth £40,000 sterling (the value of the slaves excepted).

The detached natives would soon gain the knowledge of making good sugar, and could afford to sell them to you at those factories on very reasonable terms, so that the sugars purchased from them might undergo any necessary process to fit them for the European market.

Another plan might be adopted by which the Honourable East-India Company would avoid the expense of the cultivation of the ground, &c. which would be to allow the natives a premium for the best produce of cane and sugar, as the Agricultural Society do in England. The sugar to be bought up for your use by agents in the different districts, and warehouses to be erected for the purpose of their claying or undergoing any other process necessary.

I should be happy to be employed as a superintending manufacturer or distiller, or even in both capacities; and flatter myself, that, as an individual, I have it in my power to promote the Honourable East-India Company's interest, as I am well acquainted with every process belonging to the cultivation, making, and claying the muscovado sugar, as well as with that of the distillation, for I would undertake to make pine, peach, and cocoa-nut rum, equal in quality to the best Bourdeaux brandy.

It is possible that the people here called Sircars and Banians, the greatest knaves in India, can be competent (were they even well disposed) to collect sugars of a good quality, under the directions and inspection of the Residents only, who themselves can have no knowledge of the manufacture, and whose time is employed and called to many other important concerns, particularly as the native manufactories are detached, as the husbandmen of this country will not overplant themselves: for the same field produces them the cane, the rice, the barley, the wheat, the hemp, and I may say the men to cultivate and protect it. In short, the ease and facility with which the husbandman carries on his cultivation is to a reflecting mind truly pleasing; a pair of bullocks and one man in a day are able to turn up, with a very simple plough, as much ground as fifteen or twenty negroes could do in the West-Indies by manual labour;

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the whole country being either a brick mould or inclining to it, and which is probably the most productive sugar soil in the universe, consequently capable of supplying the Europe market annually with any quantity adequate to the consumption.

It is a fact well ascertained in England, that the British West-India islands have long since ceased to be competent to the supply of Great Britain and Ireland with sugars; and that the importation of an hundred thousand tons of sugar from Bengal into the British ports, would not make the difference of two shillings and sixpence per hundred in the price of West-India sugar upon an average of any given period, I know from experience, as I perfectly recollect the prices and the demands for sugar since the year 1771. It is likewise a known fact, that the whole of the West-India islands are not competent to furnish Europe with sugars adequate to the increasing consumption.

The constitution of the laborious slave, though he works day and night six months in the year in the manufacturing, acquires new vigour and strength during that period from the use of the sugar and its slops; and after crop, from the disuse of it, falls off, and contracts little nervous fevers, which are always removed if sugar can be obtained for the sweetening his sage or contrayerva tea.

The value of a Jamaica estate contrasted with a Bengal estate:

Daily employed on a 200 hogshead estate in Jamaica, slaves old and young,		200
Cutting cane,	22	
Tyeing ditto,	8	
Wain,	8	
Mule-men,	8	
Boiling-house, stokeholes, and tradesmen,	16	
Mill-house and trash carriers,	9	
Distill-house,	6	
Cutting cane-tops for the cattle,	6	
Runaways generally,	10	
Overseer's house,	6	
Great house, if any,	12	
Looking after cattle,	6	
Ditto hogs and sheep,	6	
In the hot-house generally,	16	
In the yaws,	6	
Superannuated,	12	
Invalids,	12	
Children from 5 to 10 years, carrying grass for manager's houses,	21	
Infants,	10	
		200

N.B. This estate, if a water-mill, will make 10 or 12 tons.
Ditto, if with cattle, ... per week, 8 or 10 ditto.

Negroes employed out of crop, *viz.*

Holing ground for planting cane,	46	
Making manure,	25	
Grass-gang weeding young canes, from 5 years to 10,	30	
The field-gang,		101
Wain-men,	6	
Mule-men,	3	
Rat-catchers,	8	
Sick-house, (on an average)	10	
Runaways,	10	
Looking after runaways,	2	
Ditto after cattle, hogs, &c.	6	
In the yaws,	6	
Superannuated,	16	
Invalids,	10	
Manager's house,	6	
Infants sucking, (on an average)	12	
Tradesmen of different occupations,	9	
Differently employed...		99
Total strength		200

Say

	£.	s.	d.	
Say average value per head £50	10,000	0	0	Bengal Commercial Consultations, 8 Feb. 1793.
Mules and oxen,	3,000	0	0	
Value of cane-lands under cane, say £40 per acre,	8,000	0	0	Mr. Fitzmaurice's Memorial.
Waste, pasturage and negro ground, £11 per acre,	1,000	0	0	
Works complete, with coppers, stills, &c.	10,000	0	0	
If the plantation is far from a place of shipping, there must be a half-way grass pen, to rest and feed the cattle,	1,000	0	0	
The value of a 200-hogshead estate, £33,100 currency. £33,100 currency is, sterling,	23,642	17	0	
This property will require the addition of hired labour occasionally, or a supply of new negroes, to put in the place of those who drop off.				
Say produce from 150 to 200 hogsheads of sugar, 16 cwt. each, allowing 200 acres to be under cane, and yielding 200 hogsheads of £21 per hogshead,	4,200	0	0	
Interest on the capital, £23,642 17s., at 6 per cent.	1,418	11	8	
Commission on the shipment in the islands, Ditto on the nett proceeds in England, and insurance home, to be deducted,	480	0	0	
Utensils and clothing for the negroes is about £500 per annum,	500	0	0	
	£2,398	11	8	
The rum paying the white people's wages and expenses in the islands, and therefore leaves the owners	1,801	8	4	

In Bengal.

Now admitting that 300 acres of cane land was kept under cultivation, the ground valued at four rupees, the utmost rent per begah, three begahs to the acre, C.Rs.	3,600
Works, coppers and stills, and all utensils, to take off 150 or 200 tons of sugar, 30,000 current rupees,	30,000
Labourers, 200 daily employed cultivating, the labour of two in Bengal to be equal to one in Jamaica, at two annas per diem per annum, or three rupees per month, including tradesmen, &c.	7,200
Horses and bullocks to work the mills,	1,300
European boiler and manager, at 500 sicca rupees per month,	6,000
C.Rs.	48,100
This property, producing 150 tons of capital sugar, on an average value in Bengal, annual returns, £ St.	3,000

This property has the advantage of a West-India estate, in having no hurricanes, loss of negroes or stock to encounter, as eight or ten rupees at the utmost will replace a bullock, which costs ten pounds sterling in Jamaica.

Many circumstances, such as the failure of the West-India crops, the rage of abolishing the slave trade, and the combinations consequent thereon, concurred in rendering the first importations of India sugar, such as was sold in England these two years past, peculiarly successful; but I am convinced, after those combinations are ended, that your India sugars, as manufactured at present, will be little sought after at the Europe markets, being much inferior to the manufacture of the West-Indies, as the sugar from this country does not go so far in sweetening as the manufacture of the West, owing to the saccharine particles having been destroyed by the acidity acquired in the jaggery process, as I have already observed; and therefore, Honourable Sirs, it is necessary that the most serious precaution should be taken in making an early provision, by perfecting the manufacture here, as that it may answer all the effectual ends to the refiner and retailer in Britain, and thereby secure its permanency.

It is generally conceived in this country, that the West-India colonies will be rendered adequate to the complete supply of all the sugars necessary for the trade of the British dominions in Europe: but from my own experience I do

not

Bengal Commercial Consultations. 8 Feb. 1793.

not scruple to assert that this opinion is founded in error; and to add, that the West-India colonies are not, or never will be, competent to a supply equal to the former years' produce.

Mr. Fitzmaurice's Memorial.

It is no further necessary to illustrate this truth to you, Honourable Sirs, than by observing, that the gradual abolition of the slave-trade will produce every blessing to the slave, the master, and the persons concerned. A happy system of management will now be adopted, which will preserve the negroes, and the possession of the plantations to the owners. Though an estate in Jamaica, making 200 hogsheads, may owe in England £20,000 sterling, which is nearly its value, and that this estate, by encouraging the propagation of the slaves, fall off to 100 hogsheads, which is worth, either in the island or in England, at least 2,000 guineas, upon an average, it will clear itself in fifteen years, by adding the growing interest to the principal and paying off the debt by instalments; in short, the planter will no longer find it his interest to over-plant himself.

The conclusion arising from these facts is what induces me to state it, which is, that as the quantity of sugar in the West-Indies is likely to diminish, and the sugar trade, in a commercial view, is in all respects a British staple, its failure would prove of irreparable injury to the nation. From Bengal alone, then, can it be supported, secured, and supplied effectually. But it is of the greatest importance, in the present infant state of the sugar trade from this country, to guard against two evils which are to be apprehended: the failure of the trade generally, through the imperfect quality of the sugars as manufactured by the natives of this country at present; and the great loss sustained by the ignorance of the natives in the mode of clarification and boiling. In the first process, their returns are very inadequate indeed to the labour bestowed on their little fields of cane. Those who are acquainted with the management and yielding of cane know, that one acre of cane (equal to three bigahs) will yield 22 hundred gallons of cane-juice upon an average, and that 22 hundred gallons of cane-liquor in Bengal will make 20 cwt. of sugar 30 per cent. better than any sugar made from jaggery.

The ryot in Bengal makes his 22 hundred gallons of cane-juice into 20 maunds of jaggery, which he sells for two rupees the maund, the highest price, so that the ryot's returns are forty rupees per his three bigahs of canes. Out of this forty rupees he pays for expressing the juice, which is done by manual labour or by awkward mustard-mills, as also his rent.

I left England with Lieutenant Paterson, with whom I entered into engagements in London to superintend his sugar manufactories in Bengal: but Mr. Paterson thought proper to reject my services on his arrival in this country.

I now beg leave, Honourable Sirs, to offer you my services, in any manner your wisdom may think proper to direct my experience in your sugar trade in this country.

I have the honour to be, &c.

Calcutta, Feb. 6th, 1793. WILLIAM FITZMAURICE.

EXTRACT Bengal Board of Trade Consultations, 14th March 1793.

Read a letter with an enclosure from the Sub-Secretary, Public Department.

Board of Trade Consultations, 14 March 1793.

Sir:—Enclosed I transmit, by order of the Governor-General in Council, copy of a commercial letter from the Court of Directors, under date the 10th October last.

I am, &c.

J. L. CHAUVET, Sub-Secretary.

Council-Chamber, 13th March 1793.

See the Court's Letter in 2d Appendix, page 6.

Ordered, That the observations of the sugar refiners, transmitted with the Court's letter, be here entered.

Sir:—The sugar we received by order of the Committee of Warehouses, is now under process, and it will be at least two or three weeks before we can send you a particular account: but from the appearance of the whole while in the cooler, we are led to think that it is innately good; but that the treatment in curing after being pressed from the cane is improper, and perhaps, too, the time

time it has been kept may have been one means of depriving it of its natural strength, and the bags being stowed close in the ship's hold may have heated.

The Benares is better in quality than the Rungpore, and does not appear to be so oily. The Soonamooky, though so strong in appearance, has not at present such a show of strength in the latter parts of the process as might have been expected. It requires a prior knowledge of the quality of sugar to make the best lump or loaf from it, as different sorts require very different treatment; and were we to boil the same sorts again, are confident we could make a better refined produce; but we tried more to discover the different innate qualities of the sugar, than to produce a complete loaf.

The bags I judge to be worth three times as much as the hogsheads in which we receive the West-India sugar, which I calculate would give a preference of eightpence per cwt. in favour of India sugar in their present packages.

I will continue to pay constant attention to the further process, and as soon as possible transmit to the Committee our further opinions.

I have the honour to be, &c.

WALTER BRACEBRIDGE.

London, September 1792.

Sir;—Agreeable to the desire of the Committee of Warehouses of the East-India Company, made known to me in your letter of the 22d ultimo, I take the first opportunity of communicating to you such remarks as have appeared to me deserving of notice, in refining the three kinds of sugar received from you, *viz.*

1st. *Soonamooky.*

This sugar, which has a very bold grain, indicating strength, cleared very strong, in so much that I was able to use three to four large basons of fresh water, with a view to heighten its colour and reduce its grain. It was also very clean, for after the first scum was removed, the remaining scum was little more than froth. I observed, during the operation of evaporation, that its strength declined, and it became tough (which by the bye is frequently observable in West-India sugar); but do not think that this was the effect of the fresh water used in clearing, but arising rather from the peculiar quality of the sugar itself, or in the original method of treatment in the manufacture. Was I to hazard an opinion, I should ascribe it to its having been boiled too high, with a view of forcing a false grain; but I feel myself dissatisfied with any judgment not resulting from actual experiment. After it had been stirred a proper time in the cooler it gave a large grain, though the first and second skipping were boiled rather to a low proof.

Notwithstanding the foregoing observations respecting its toughness during the process of evaporation, the loaves appear to have got rid of their syrup well, and many are neat under the second clay, and look very handsome The green syrup also, in the course of two or three days after it had been gathered, was covered over with a thick skin (a further proof of strength).

This sugar, in my judgment, is well adapted to the pan; and could it be afforded for about 70*s.*, duty paid, I am of opinion the refiners would very readily purchase it. Agreeable to the present value of good St. Kitt's sugar, it would be cheap at 84*s.* per cwt.

Having boiled a part (reserved in the last skipping) a little higher, I poured it into a candy-pot, properly prepared, for the sake of ascertaining if it was suitable for the making of candy; but I found the stone *small.* I am at present doubtful respecting this matter.

Candy being in very little demand in this part of the world, this is, comparatively speaking, of small importance.

2d. *Remarks on Benares Sugar.*

The quality of this sugar being very soft, I was agreeably disappointed to find that it cleared very well, and showed signs of strength, and was of equal purity with the Soonamooky.

Report of Sugar Refiners in London.

When under boiling process it was perceptibly weak, and required to be treated differently from the Soonamooky. This consisted in giving it a higher proof, and stirring it less.

The grain was much smaller in the cooler, yet it looked bright, and when halled and stirred in the moulds appeared to resemble the Soonamooky sugar.

An experiment to ascertain its strength and suitableness for candy was also made; the stone, like the former, is but small.

The loaves have now had two clays, and some few neat; their appearance is upon the whole good, but not quite equal to the Soonamooky sugar. The syrup discovers also signs of strength. This sugar, if tempered with strong *lime-water*, and boiled for strength, might (I think) be made to rival the Soonamooky, and be very proper for the pan. Its present soft appearance leads me to suppose it has been boiled low, and stirred much to give it colour, and that little or no lime has been used. In its present state it is very suitable for the scale, and I think it likely to answer for exportation, and would now fetch 90*s.* per cwt. duty paid, this kind of sugar being much in demand, owing to a scarcity thereof, occasioned by a very wet season in the British Islands.

3d. *Remarks on the Rungpore Sugar.*

The appearance of this sugar is similar to the Benares, soft and coloured.

It cleared well, but was very weak during the evaporation, and difficult to bring to proof.

The grain was small in the cooler, and when the moulds were filled, and the sugar had undergone the process of halling and stirring, its appearance was dull and lifeless (an infallible sign of great weakness), the green syrup after it had remained ten days undisturbed, showed no signs of strength, and appeared to possess very few salts. The loaves now under second clay are very heavy in the head and rough in the coats.

A small quantity was poured into a candy-pot, and it turned all to foot.—This sugar appears very unsuitable for the pan, but it may answer extremely well for the scale; and the British market can dispense with a large quantity of it.

I should also think that it would be in steady demand for exportation, at a moderate price.

Its present value is nearly the same as the Benares.

In the course of a month the loaves will be fit for sale, when I will hand you samples of them, and also of the candy and syrup.

Interim, I remain, &c.

London, 21st September 1792. BENJ. TRAVERS.

Minute of Bengal Board of Trade, 14th March 1792.

The Board are happy that the Honourable Court have testified their satisfaction at the manner in which their order of the 6th May 1791, respecting a supply of sugar, was carried into execution.

The sales of sugar consigned by the Queen and Phœnix are encouraging. It is with pleasure the Board remark, that the Honourable Court have anticipated the proposition of this Board of the 7th of August 1792, for lowering of freight; and they hope that the great advantage the commerce in Bengal sugar promises to these provinces, to the Company, and to the nation, will induce the Legislature to consider favourably their representations for lowering the national duty.

Agreed, Copies of the observations of the sugar refiners upon the Soonamooky, Rungpore, and Benares sugar, be communicated to these factories.

Agreed, That the following letter be written to the under-mentioned factories:

Benares,	Soonamooky,
Rungpore,	Radnagore,
Santipore,	Commercolly.

Sir:—The sugar refiners whom the Honourable Court of Directors have desired to ascertain the respective qualities of Bengal sugars, have expressed a wish of being furnished with as minute a description as is capable of being obtained,

obtained, of the various processes the article undergoes in its manufacture in each separate district, as such information will tend much to assist their judgment in applying and varying their operations, in such a manner as shall best suit with the treatment the commodity may have undergone in its first stage of manufacture. Minute of Bengal Board of Trade, 14th March 1792.

Much general information is to be collected from the accounts you have already given to us: but as more particular attention is necessary to guide the experiments of professional men, we request that you will give the most minute account your present experience or your inquiries may enable you; and to enable you the better to accomplish the purpose they want, that during the present sugar-cane harvest you will cause experiments to be made under your immediate inspection, and report the same to us; noting particularly the ingredients that may be used in manufacturing the juice into goor, and the goor into sugar, with the proportions and quantities of each ingredient that may be used. The sugar that you may obtain from your own experiments you will be pleased to send down separately.

We desire your information may be as full as possible, and that you will transmit it without loss of time, to enable us to send it to the Honourable Court by the earliest opportunity. We are, &c.

Additional Paragraph to Benares, Rungpore, and Soonamooky.

We enclose for your information the remarks of the refiners in England, on some sugar sent from hence in November 1791.

The Board refer the Honourable Court to their minutes of the 7th August and 4th September 1792; by which it will appear, the Board trust, that the expectations of the Honourable Court will, in the time unavoidably necessary for the increase of produce, be answered.

Extract Letter from Board of Trade, 30th March 1793.

7. Our consignments of sugar, this season, amount to maunds 50,641 24 12 including fifteen maunds of sugar candy, maunds 509 5 14 of sucker, and forty-one maunds of goor, sent for observation or experiment. Board of Trade, March 30, 1793.

8. Whatever ideas sanguine projectors and ardent persons may have communicated to the Directors or to the public in Europe, we trust that the Honourable Court will not be dissatisfied with the success that has attended our exertions, when they bear in mind that, in consequence of our intentions of proceeding in this new branch of commerce with caution, our original allotment for 1792 stood at only C.Rs. 1,65,000; that we did not push our purchases till the intelligence of the unlooked-for events communicated by their Secret Committee's letter of 3d November 1791 reached us, at which time the plans of speculators for the American and Europe markets, under foreign colours, were in considerable forwardness; and that the crop of 1792, from which our consignments of this season are almost wholly produced, was remarkably scant.

9. Besides the above consignments, there are laden on the Company's tonnage, upon account of individuals, Maunds 7,465 18; and some, we understand, is gone in the privileges of the commanders.

10. Applications for a further quantity of tonnage for this article were made to us. At that time people were strongly impressed with the belief that the sugars from this country would, conformably to the desire of the Honourable Court of Directors, have been admitted into Great Britain upon the same national duties as West-India sugar; and to what extent applications might have been carried, had the wishes of the Honourable Court been complied with, we cannot say; but when it was perceived that the assistance the sugar-refiners at home, and numbers of individual families, looked for from this country, was in a manner prohibited by the continuance of the present excessive duty, a demur immediately ensued, and different pleas were stated for withdrawing some of the applications that had already been made.

11. Of our consignments, only 1,209 factory maunds, shipped upon the Tartar, are of the produce of the crop which is now nearly gathered in: fifty-four factory maunds of these are date-tree sugar, of a quality superior to any of that sort we have yet seen. We request the Honourable Court will be pleased to desire particular attention to be given thereto by Messrs. Travers and

Bengal Board of Trade, 30th March 1793.

and Bracebridge. Herewith we send a small sample of sugar-candy, which was made by native manufacturers at Radnagore from the date-tree juice.

12. We are not sanguine in our expectations of this sugar becoming an article of export; but as it certainly answers for home consumption, it will enable the country to spare more of the cane-sugar, and is, therefore, worthy of encouragement. Our proceedings will shew that we mean, notwithstanding this opinion, to give it a fair trial for export.

13. We agree in the opinion expressed by the Inspector, of the advantage, in point of freight, by exporting the fine sugars, and of the benefit of encouraging the manufactures of this country in preference to the foreign European refineries. But we think it proper to observe, that refined sugar can be purchased only by the affluent; that all classes of mankind are fond of sugar; and that it may be advisable to send to Europe a considerable quantity of the coarser sort, in the lowest state of preparation in which it will bear the voyage, in order that the poorer ranks may be gratified with this salutary comfort of life as well as the rich; and we shall be glad, as well in respect to the employment of our national shipping, as the extension of the consumption of the article, if the out-turn may enable the Company to follow these ideas.

14. The Custom-house Reports shew that the seventh proposition in our proceedings of the 4th August last, and the reasonings on which it is founded, are in speedy train of being verified. It appears that, from the beginning of 1792 to the fifteenth instant, there have been exported to Europe on

American ships, 99,762 bazaar maunds, or tons of 20 cwt.,.....	3,657
Genoese, to Ostend, 9,425.....do.....	345
French, to France, 2,600.....do.....	95
	Tons 4,097
And there have been exported to America on American ships, 21,200 maunds, or	777

15. The sugar sent to America was probably American property; that to France, French; that to Ostend, on Genoese ships, problematical; but that to Europe, on American bottoms, we do not believe to be American property (though whose property it might be we cannot pretend to say). We consider the Americans merely as carriers, and as such present their success to the notice of the Honourable Court; but it is proper for us to remark, that we do not think the whole shipping in question to have been *bonâ fide* American, though we have no doubt the greater part really was; and as we cannot separate the real from the fictitious, we consider the whole as American.

16. The price of freight to Europe on these vessels has, we understand, varied from £10 to £14 per ton; it has seldom been less than £12; we shall, therefore, be moderate in assuming that price for a datum. Thus, in the infancy of this commerce, and in the short period of less than fifteen months, has £42,884 gone to support the navigation of the United States of America in one single article, the produce of this country.

17. We earnestly hope, that the endeavours of the Honourable Court for reducing the price of freight will be successful; and we cannot but flatter ourselves they will, as we see the Tartar, by which this will be conveyed, is hired for £1,500, and is chartered to carry home 150 tons or thereabouts; and as a merchant-ship need not be equipped so expensively as a packet, we suppose more tonnage may be obtained in London, at least upon the same, if not upon more favourable terms.

18. We send copies of replies from the undermentioned Commercial Agents to the inquiries respecting sugar, which the Honourable Court, in their letter of the 25th April 1792, desired to be made, and beg leave to refer to them for the information they contain, viz. Benares, Commercolly, Dacca, Gollagore, Jungypore, Malda, Radnagore, Santipore, and Soonamooky.

19. We also send a statement formed from the replies received from the Collectors, in answer to the inquiries made by our letter of the 7th August to your Lordship in Council, shewing the quantity of land cultivated with cane in each district, the estimated produce in sugar and in goor, the quantity consumed

sumed in the district and that exported; and we have annexed thereto an abstract of sundry points of information contained in the letters.

Letter from Board of Trade, 30th March, 1793,

20. Correctness cannot be expected in accounts of this nature. The persons to whom the Collector must necessarily refer for information, are seldom solicitous to procure it exact on points which they consider as irrelevant to their usual duties; and the turn of mind which landholders and peasants, who have for ages lived under despotic Governments, acquire, leads them to distrust the issue of any research by government officers, to represent the quantity in cultivation as less than the reality, and to exaggerate the natural defects of soil and situation. These reflections will account for the inconsistency of many of the reports, when compared with each other, and for their general imperfection.

21. From the reports it however appears, that exclusive of the extensive and fertile zemindarry of Benares, of the large districts of Nuddea, including Hooghly, of Bahar Proper, of Radjeshie, including Mahomedshie and Boosna, and of Momensing, in various parts of which countries we have individually seen a considerable cultivation of cane, and in a year when the demand in Europe had not had time to cause an increase of culture, that 1,59,732 begahs, or 53,243 acres, were cultivated with sugar-cane; and this we think to be considerably short of the real quantity.

22. The copies of the Collectors' replies will be forwarded by the next opportunity; we were in hopes the whole would have been received in time to be forwarded by the ships of the present season.

24. The Sugar Contractor, Mr. Paterson, having, as mentioned in our Address of the 31st January last, advised us that he had at length succeeded in procuring some land for the purposes of his contract, we beg leave to acquaint the Honourable Court, that we have called on him for information whether he has a prospect of delivering any sugar from the present crop of cane.

27. Our consignments of sugar this season are 50,076 maunds, 18s. 4ch, (exclusive of sugar-candy, sucker, and goor), amounting to C.Rs. 4,01,518 11 8, exclusive of Export-Warehouse charges.

33. In consequence of the Honourable Court's order to send home specimens of every sort of sugar brought to this market, we have purchased twelve maunds of sugar, said to be made in the neighbourhood of Lucknow, from Messrs. Cockerell, Trail, and Co., and send it by this opportunity.

34. Besides the consignments to the Company, there are laden on account of Mr. Francis Horsley, a few maunds of sugar packed in a buffalo's hide, by way of experiment as to that species of package; to which we request the Honourable Court's attention, as should it be found to answer, a considerable quantity of sugar may go packed in such skins, or in ox, goat, or sheep skins, or in leather made therefrom.

Extract Letter from Board of Trade, 14th May 1793.

Letter from Board of Trade, 14th May, 1793.

6. From some of the sugar-bags having on being re-landed been found broken, it appearing that double bags are not sufficiently strong, in future a triple covering will be used, *viz.*: a white cloth and two gunnies, or a white cloth, a mat, and a gunny.

Letter from the Board of Trade to the Governor-General in Council, 22d July 1793.

Letter from Board of Trade, 22d July, 1793.

My Lord:—As it is necessary for the Honourable Court of Directors, in order to guide their engagements for shipping for the year 1794, to have information as early as possible of the quantity of sugar we may be able to send home in the shipping season of 1794-5, we required a Report from the different stations of the quantities that may be provided at each, with an estimate of the probable cost thereof, and we now submit the same to your lordship as follows:

Letter from Board of Trade, 22d July 1793.

FACTORIES.		Quantity reported.	Price reported.	Quantity in Factory mds.	Probable cost as landed at the Presidency, estimated by the Board.
					C. Rs.
Benares.....	Maunds of 96 Bs. s. weight .	30,000	Triss. Rs. 10 p. maund, may be more.	41,250	4,57,832
Commercolly...	(Report promised, but not yet come in. A supply of money asked)				
Hurripaul.....	Maunds of 80 Calcutta s. weight.....	5,700	S.R.7 to 6.	6,270	50,345
Patna.....	Weight of maund not mentioned, but from the price supposed the bazar m. of 80 Calcutta siccas.....	30,000	S. R. 10.	33,000	3,63,650
Radnagore.....	Factory maunds.....	25,000	s.r. 8 4 to 6 8	25,000	2,33,633
Rungpore.....	Weight of maund not mentioned, factory maund supposed to be meant....	80,000	Cannot say	80,000	8,00,000
Santipore.....	Factory maunds.....	14,000	S. R. 9to 8.	14,000	1,51,118
Soonamooky...	Factory maunds 14,000 or 15,000 (take 14,000).....	—	C.Rs. 10, with charges.	14,000	1,40,000
			Fact. mds.	2,13,520	21,96,578
			or Tons.	7,117	

Prime Cost and Charges.....C. Rs. 21,96,578
Commission upon Prime Cost..... 95,024
Export warehouse charges on bags 1,06,760 of 2 Mds. each, at 7 a. 9 p. each 51,712

Total, (exclusive of Commercolly)..... C. Rs. 23,43,314
N. B. No answer whatever received from Mr. Paterson.

The above quantity is probably much less than the expectations of the Honourable Court, and is certainly far beneath our own hopes. We believe it would have been more had your Lordship approved the plan we submitted to you on the 25th September 1792. We have in contemplation to offer to your Lordship our deliberations, aided by our further experience, on this subject, but the time necessary to state them would impede the transmission of the information we now want to convey, were this letter to wait for them.

At Radnagore and Hurripaul, the Residents have made engagements for specific prices; but at all the other places the prices set forth are mere conjectural, depending ultimately upon the price current at the time of delivery of the article. It is now estimated excessively high, but the estimate can only be formed upon existing circumstances. The high price in Europe makes a high price here, and considering the vehement competition that now prevails, we do not see any cause of objection, except to that from Patna.

We have not yet had any quantity consigned from that factory, and cannot sufficiently judge of the quality from the samples we have seen from thence. It is possible that this may in some degree compensate for the high price; but if it should not, and the quality proves only equal to the Benares or Rungpore, we think it may be advisable to lessen the quantity, unless the price can be lowered, or that the price in Europe should still rise, or that there should be more tonnage on hand than can be otherwise filled. We therefore leave to future consideration a reduction of one-third of what the Resident states as procurable. This will in some measure be made up by what may be procured from Commercolly, the Resident of which place has requested S.Rs. 30,000 to be advanced him forthwith; but as we wish to avoid subjecting the Company to the possible heavy charge of dead freight, we beg it may be submitted to the Honourable Court, whether to send out less tonnage than we have stated, by five or 600 tons, or to subject the Company eventually to the risk of some loss. Should they send the whole quantity, we will exert ourselves to fill it; and if we fail, we trust theHonourable Court will render justce to our zeal, notwithstanding a want of success.

Letter from Board of Trade, 22d July 1793.

5. Of the price in Europe at the time the sugar may arrive, we cannot form any just opinion. It is reasonable to suppose that the depredations of Britain and France upon each other's trade, will impede West-India produce from coming to the Europe market; that it will check the recovery of St. Domingo from its sufferings by the late insurrection, and that, for these reasons, the price of sugar in Europe may keep up. We submit an estimate of the profit and loss of the sugar in question, which, supposing it to sell for 70 shillings per cwt. and that freight be obtainable, as in the case of the Belmont and Talbot, for £20 per ton, shews an encouraging gain; and another which, taking the selling price at 60 shillings, gives a small profit. The great benefits that will arise from establishing a permanent trade in sugar, render it advisable to go on, even though a small loss should at present be incurred. Whatever we abandon in this commerce, may be considered as so much surrendered to the commerce and navigation of foreigners.

6. We think proper to observe, that the statement of quantity, as well as of price, is generally given as conjectural; it is too early in the year to form it with accuracy. October would be the proper time to require it from the factories, but it would then be too late to furnish the Court of Directors with the information they must wish, to guide their engagements. It is now given as late as can be done consistently with the object proposed; and we submit to your Lordship the expediency of its being forwarded by a packet overland.

Fort William, 22d July 1793. We are, &c.

P.S. We annex an account just received from the Custom-master of sugar exported to Europe and America, between the 1st April and 30th June last. Your Lordship will observe that the whole is upon American bottoms, a circumstance which, considering that the season in which they sailed is unfavourable for ships leaving Bengal, marks their increasing success in the carrying of sugar from hence.

Ships' Names.	Nation.	Where bound.	Quantity in Bazar mds.
Ship Union	American.	Ostend.	510
— Hercules	Do.	Do.	12,000
Snow Abigail	Do.	Rhode Island	4,000
Ship Robert Morris	Do.	Ostend	9,000
— Sarah	Do.	Do.	3,500
		Total, Bazar Maunds...	29,010
		or Cwt....	21,274

First Estimate of Profit and Loss.

Dr.		Cr.	
Shipped factory Maunds 2,13,520 or cwt. 1,42,346.		Sale price, at 70 shil. per cwt. clear of duties,	
Prime cost on board ship, C. Rs. 23,43,314 at 2s.	£234,331	Shipped, cwt 1,42,346	
Freight uncertain; suppose at the rate of the Belmont and Earl Talbot, viz. £8 out, and £12 home; the whole put on returning cargo	142,346	Ded. supposed, wastage 5 per cent. 7,117	
Duties (none)		Sale weight, cwt.	1,35,229 £473,301
Charges merch. 5 per cent.	23,665		
Profit	72,959		
	£473,301		£473,301

Second Estimate.

Dr.		Cr.	
Cost and freight as above	£376,677	Sale price, at 60 shillings on cwt. 1,35,229	£405,687
Duties (none).			
Charges merch. 5 per cent.	20,284		
Profit.	8,726		
	£405,687		£405,687

Letter from Agent at Rungpore, 19 Aug. 1793.

Experiments in Sugar.

LETTER from the Commercial Agent at Rungpore, 19th August 1793.

Gentlemen:—I was duly honoured by the receipt of your letter of the 14th March last, and in obedience to your orders, lost no time in commencing my experiments in the manufacture of sugar; in the course of which, however, I have met with so many unexpected impediments, that the information I can now give will be by no means so complete as I had hoped.

I began my experiments by measuring off a field into begahs of eighty hauts square, counting the number of canes in the begah, causing them to be pressed, and the juice boiled up into goor under my own eye. The season was so far advanced, the best canes having been before cut, and the weather for some time intensely hot, that the result of this part of my experiment was extremely unsatisfactory; I shall, therefore, only notice such part as I can depend upon, and which, in fact, will answer every purpose for which the experiments were required to be made, that is to say, of ascertaining the proportions and quantities of each ingredient used in manufacturing the juice into goor, and the goor into sugar of the first sort.

The juice of the cane as it runs from the mill is carried to the currai, or iron caldron; this is placed over a furnace, formed by a circular excavation in the earth, with a slope down on one side to a small opening at the bottom for introducing the fuel, and on the other side a flue, rising gradually to the height of about two feet above the ground, at the further end from the furnace whence the smoke issues. On the top of this flue (which is made of kneaded mud) five or six earthen pans are let in, so that they each receive a heat from the furnace, lessened in proportion as the distance is increased. The currai being about one-third filled, the fire is gradually lighted; in about half an hour the scum rises very thick and dirty, which is removed with a skimmer, or rather a thick close hand-net. When the liquor begins to boil, a small portion is ladled out of the currai into the earthen pans over the flue, one ladleful at a time into each pan successively. The liquor remaining in the currai, from the diminution of the quantity, now boils higher; the removal of it into the pans is repeated at short intervals till they be all filled and very little remains in the currai, which now boils very fiercely. The skimming of the pans, as well as the currai, continues constantly; the liquor from the pan is again gradually returned, that is, a ladleful from the first or nearert pan into the currai, from the second pan into the first, and so on successively till the whole be returned into the currai; the fire is then made very fierce for a time, the liquor rising in bubbles nearly to the top of the currai, which is then taken bodily off the furnace, and placed on a circular whisp of straw (to steady it), near the mutkees, or earthern jars for the goor; it is then well stirred about with the ladle, held up at some height, and poured in again for a few minutes; the mutkees are filled, and the process completed, except that after it has cooled a little in the mutkus it is worked about with a stick. In this process there is no mixture whatever, but the plain juice is simply boiled and skimmed, the whole taking up a space of about two hours, from the first lighting the fire in the furnace till the currai is taken off. The quantity of danadar goor produced is in the proportion of one part in six of juice; that is to say, sixty gallons of juice put into the currai will produce ten gallons of danadar goor, the remainder being wasted in scum and evaporation.

This goor is then taken to the sugar-house, scraped out of the mutkees, kneaded, the lumps broke, mixed up with some water, and put into thick hempen bags, which are suspended to a beam, fixed on cross sticks over a reservoir, for the mhât, or molasses, which drips through the bags; large bamboes placed on each side of the bag, are drawn tight with cords at each end, which are tightened once or twice a day as the bag shrinks in draining. In two or three days the goor is emptied out of the bags, kneaded up again with water, and again pressed in the bags.

Two of these bags, when thoroughly drained, are emptied into a currai over a large furnace, with a quantity of the water which has been used in washing out the mutkees and the workmen's hands and implements, the lumps of goor all broken small and well mixed up with the water, the fire very gentle for some time. When the liquor is warmed a little (not near boiling), about a pint of strong leys is added; this very soon promotes a very thick scum all over the surface

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surface of the liquor; a quantity of plain water is then added, and the skimming commences. When the surface is thus pretty well cleared of the scum, more of the leys is thrown in from time to time in small quantities, and occasionally lowered with water, skimming constantly; the fire still gentle, and the liquor only simmering. In somewhat more than two hours from the commencement of the process the fire is increased, and the liquor begins to boil pretty strongly: a small portion of milk, more leys and water; for about a quarter of an hour before this boiling ceases the fire is made exceedingly fierce, the liquor rising nearly to the top of the currai; milk, leys and water constantly and rapidly added during this time. This operation lasts for about three hours, or somewhat more; about eight gallons of the strong leys and two and a-half of milk are used.

The hot liquor is then ladled out of the currai, and strained through pieces of guzzies supported by square bamboo frames, with a coarse net-work bag fastened to them. These are placed on a kind of open stage of bamboo, about two feet from the ground, beneath which earthen pans are sunk in the earth, to receive the strained liquor; the currai well washed out, and about a fourth of the strained liquor returned into it, well stirred, and a strong fire applied, a small portion of scum rising is removed. It now boils up very fiercely, rising nearly to the top of the currai; in about half an hour, more of the strained liquor is added, and as it rises again some milk is occasionally thrown in to repress the violent ebullition. Somewhat less than an hour from the commencement of this second boiling, the currai is taken off the fire, and about two-thirds of its contents ladled into the coondahs; the currai with its remaining contents is returned on to the fire, and more of the strained liquor added thereto, well stirred up together, and the fire made very fierce, a little milk from time to time thrown in; and in about half an hour the currai again removed, and about three-fourths of its contents added to the coondahs, which, with this addition, are above half filled; more of the strained liquor boiled as the last, and filled into the coondahs, leaving only a very small quantity in the currai, which is then added to the small remains of the first strained liquor. All the scum is then put into the currai, with a quantity of leys, milk and water, boiled for a few minutes, and then strained through the same cloths as the first which have the dregs remaining in them. The currai is well cleaned out, and the fire under it increased; the liquor of this second straining is then poured in by degrees, a great quantity of whitish scum rises and is removed, more milk and leys are added, and some of the remaining first strained liquor. As soon as it is pretty free of scum the fire is made exceedingly fierce for about an hour, the liquor bubbling to the very top of the currai; all the remaining first strained liquor is added, the whole well skimmed, and the fire again increased to the highest possible pitch, a little milk occasionally sprinkled in to prevent its boiling over. When thus brought to a sufficient degree of consistency, (which is judged of by taking up a little in the skimmer, and its falling through the holes in ropes) the currai is taken off and carried to the coondahs, stirred about briskly, two or three ladlefulls taken from the coondahs and well mixed and stirred about for some time in the currai; the whole is then finally filled into the coondahs; the coondahs are set by to harden, and are then weeded, which concludes the process.

This experiment I made on fifty-five maunds of danadar goor: that is, fifty-five maunds were dispatched to this place from the Gauteh, where I superintended the process of making a part only of it; but one bullock having fallen with four mutkees, I reckon that near a maund was lost. One maund also still remains for mixing with the cootrah, to make that into sugar, which I have not yet been able to effect, the rising of the waters having destroyed my furnace, which cannot be repaired till they shall have fallen considerably.

I may therefore state the actual quantity of goor at fifty-three maunds of ... sicca-weight, or about forty-three and a half maunds, factory-weight. Twenty-five seer of milk, and the leys of sixteen seer of plantain-tree ashes were used in the process, and the produce is as follows:

	Maunds.	Seers.
Awul Cheenee, factory weight	6	32
Cootrah	5	31
Mhât	27	26

Letter from Agent at Rungpore, 19th August 1793.

The sugar produced from the cootrah undergoes a much more tedious and complex process, of which I shall state the particulars as soon as I may have an opportunity of examining it minutely.

I have, &c.

Rungpoor, 19th August 1793. B. Mason, Resident.

Experiments in Sugar.

Letter from the Resident at Commercolly, 25th March 1793.

Letter from Resident at Commercolly, 25th March 1793.

Gentlemen :—In conformity with your orders of the 14th instant, I have the honour to send a particular account of the mode of manufacturing sugar at this place; although, as the article is newly introduced here, and the workmen are from Santipoor, the process must be the same as at that aurung.

Goor. Is prepared here simply by straining and boiling the juice without the addition of any ingredient whatever.

Sugar. The goor in the state in which it is delivered is put into gunny bags, and pressed by bamboos tied tight across, for the purpose of extracting all the thin juice, which falls into vessels placed to receive it. It remains in the pressing bags about twenty-four hours, after which it is spread upon a board, and well mixed with the hand, and moistened with a little water; it is then put a second time into the pressing bag, where it remains as before twenty-four hours. By these operations the quantity is reduced to one-half, which is carried to the boilers, and being again mixed well with the hand, and a mixture of chunam and potash thrown into it,* it is boiled for about three-quarters of an hour; milk and water (one-fifth milk) being thrown in from time to time, as the froth rises, to make it subside and to purify it. At the expiration of three-quarters of an hour (or thereabouts) it is taken off the fire, and when cool enough strained through a coarse cloth into another pan, when it undergoes a second boiling for the same length of time as the first, and all the scum that rises is carefully taken off. As soon as it is observed to be tolerably clean, it is taken off the fire and set aside to cool; it is then put into the pans to settle, and after two days, when it is sufficiently condensed, a small hole is made at the bottom of the pan, and the pottah sehalah (a weed found in the jeels) is laid on the surface to cleanse the sugar; a pan is placed below to receive the dregs which run from it, and which form a part of the refuse goor. In three or four days the sugar at the top, to the depth of three or four fingers, becomes sufficiently clean, and is scraped off with an iron instrument for the purpose, and put by as ready, and pottah sehalah applied afresh to what remains; in like manner it is repeated as often as may be necessary to clear the whole, which from the depth of the pans is seldom done in less than twenty or twenty-five days.

Richard Becher, Resident.

Letter from the Resident at Santipoor, 2d July 1793.

Letter from Resident at Santipoor, 2d July 1793.

Gentlemen :—I have now the honour to transmit you an account of the process of making sugar at this factory.

I have, &c.

Santipoor, 2d July 1793. E. Fletcher, Resident.

Process *of making* Sugar *at* Santipoor.

Method of manufacturing the Juice of the Cane into Goor.

The crops of sugar-cane are generally cut down in January and February, and the juice is pressed from the canes and boiled on the day after they have been cut; the cultivator takes care not to cut more canes in one day than he will be able to manufacture into goor on the next.

The juice, as pressed from the canes, is poured into a large earthen vessel, and put on a strong fire to boil, and the boiling is continued for seven or eight hours, in which time the juice thickens and is reduced to about one-sixth part of the original quantity. During boiling a great deal of scum rises to the surface, which is removed by a man who attends, and generally either milk, chunam water, or a ley of the ashes of the plantain tree and opang shrub are sprinkled

* This mixture is made as follows: to a pint of water one chattac of clean chunam and one-quarter chattac of potash, which is sufficient for half a maund of the goor.

Letter from Resident at Santipoor, 2d July 1793.

Experiments in Sugar.

sprinkled in to assist in purifying it. When it has been sufficiently boiled, which is ascertained by the thickness of the liquor, and the scum ceasing to rise, it is poured into another vessel to cool and settle, and in three or four days becomes grained and much thicker, in which state it is called goor, and is received at the subordinate factories from the ryots.

The quantity of the ingredients used in manufacturing goor is not always the same.

The Gomastah of the cooty of Sibnebas informed me that if the canes were good, and the juice boiled in a clear day, one seer and half of milk only was used in manufacturing a maund of goor; but if the canes were bad, and the day of boiling cloudy or foggy, four chattacs of a strong ley made from chunam and the ashes of the opang shrub was added to the milk.

The Gomastah of the cooty at Soolunt informed me, that in general the juice was manufactured into goor by boiling only, and no ingredients used; but that sometimes a little milk was thrown in.

The Gomastah at Badagotchy sent me the same information.

The Gomastah of the cooty at Dyhaut informed me, that four chattacks of strong chunam water was always used there in manufacturing a maund of goor.

Method of making Khaur.

Goor, when received from the ryots at a subordinate cooty, is put into baskets to strain, and kept in them until about fifteen seers of molasses have been drained off. What remains in the baskets is a coarse, dark-coloured moist sugar termed khaur; this is dispatched in baskets to the sugar manufactory, and molasses are sent separately in other vessels.

There are four kinds of sugars manufactured at Santipore, *viz.* dowloa, chinee, boora, and dobarra chinee.

Method of making Dowloa.

Khaur that has a good grain and light colour, is put into baskets containing two maunds each, and covered well over with seala, a broad-leafed weed, resembling guinea-grass, found in lakes and ponds, to whiten the sugar and purge it of the molasses; in this state it filters for six days, when the sehala is taken off, and the sugar at the top that appears to be sufficiently purified is scraped off with an iron instrument and carried away; a second covering of fresh sehala is then put on the remainder, and kept so for four days, when whatever sugar appears ready is scraped off as before; a third coat of sehala is next applied, and after four days' filtering some more sugar is taken off; the remainder is again covered with fresh sehala, and kept so for three days, at the expiration of which all the sugar in the basket is taken up.

The sugar when taken from the baskets is spread upon a cloth, and exposed to the heat of the sun to dry.

The following is the quantity of dowloa usually procured from a basket containing two maunds of khaur:

	Mds.	S.	C.
1st scraping	0	6	0
2d	0	17	0
3d	0	16	0
4th	0	8	0
	1	7	0
Molasses drained off	0	27	0
Wastage, and absorbed in the sehala	0	6	0
Maunds...	2	0	0

The sugar obtained from the first and second scrapings is the whitest.

Method of making Chinee.

Twelve seers of khaur well mixed in a pan with three seers of water, are put on a

Letter from Resident at Santipoor, 2d July 1793.

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on a strong fire to boil, and during the boiling, which lasts for an hour and a half, a mixture of four chittacks of milk and seven seers of water is sprinkled in, and the scum that rises carefully taken off by the man who attends the pan.

The hot syrup is then strained through a basket lined with white cloth into another vessel, whence it is poured into smaller pans (six seers in each pan) and put on a brisk fire to boil; during this boiling, which lasts for half an hour, a small quantity of milk is sprinkled in, and any scum that rises carefully removed. The hot syrup of one maund and ten seers of khaur prepared in this manner is then poured into a coondah, the hole in the bottom being stopped, and there mixed with one seer of khaur; (a coondah is an earthern vessel in the shape of an inverted cone, with a small hole in the bottom;) in this state it is left for two days to cool and harden; on the third day the stopper is taken out of the bottom, and the aperture perforated with an iron rod to let the molasses run off; on the fourth day a covering of fresh sehalah is laid on the coondah, and left so for four days; it is then removed, and the sugar at the top loosened and scraped off with an iron scraper.

The sugar that remains is again covered with fresh sehalah, and kept so for five days, when as much as appears sufficiently purified is scraped off as before. A third covering of fresh sehalah is then applied and kept on for four days, when a further quantity is scraped off; after this, the fourth and last coat of sehalah is put on and left for two days, when all the sugar remaining in the coondah is taken up. The sugar when removed from the coondah is spread on a cloth and exposed to the heat of the sun to dry.

The following is the general produce of a maund of khaur:

	Mds.	Seers.
Chinee.....	0	13
Sote or molasses.....	0	21
Scum and wastage	0	6
Maund...	1	0

Method of making Boora.

Twelve seers of dowloa well mixed in a pan with three seers of water, are put on a strong fire, and during the boiling, which is kept up for an hour and a half, a mixture of four chittacks of milk and five seers of water is sprinkled into it, and the scum that rises to the surface carefully removed: the pan is then taken off the fire, and the hot syrup strained through a cloth into smaller pans, (from four to five seers in each) which are put on the fire to boil; as it boils, the man who attends the pan sprinkles in a small quantity of milk, and carefully skims it. The time of boiling being over, which is usually an hour, and is ascertained by the thickness of the syrup, and from no scum rising, the pan is taken off, and the hot syrup kept stirring about with a large iron spoon until it cools and settles into a solid mass, when it is laid upon a smooth board and broken into a powder by a roller: it may then be packed up. One maund of dowloa usually produces thirty-two or thirty-three seers of boora.

Method of making Dobarra Chenee.

Twelve seers of dowloa are mixed in a pan with a seer and a half of water, are put on a strong fire to boil, and during the boiling, which lasts for an hour and a half, a mixture of four chittacks of milk and six seers of water is sprinkled in by the man that attends the pan, and the scum that rises to the surface is carefully taken off. The hot syrup is next strained through a cloth into another vessel, whence it is poured into smaller pans, (six seers to each pan) and put on a brisk fire to boil again; during this second boiling, which lasts for half an hour, a small quantity of milk is sprinkled in, and any scum that rises taken off. The syrup of one maund and ten seers of dowloa prepared in this manner is then poured into a coondah with about one seer of dowloa, and left for three days to cool and settle; the stopper is then taken out of the bottom, and the aperture perforated with an iron rod, to let the molasses drain off, and left for three days more. Fresh sehalah is now laid on the coondah, and kept so for four days, when the sugar at the top which is white, and appears well purified, is scraped,

scraped off and taken away; another covering of sehalah is put on for four days more, and then a further quantity of sugar is scraped off; a third coat of sehalah is next applied for four days longer, when all the sugar that remains is taken up. The sugar when carried from the coondah is spread out and exposed to the sun to dry.

Letter from Resident at Santipore, 2d July 1793.

Experiments in Sugar.

A maund of dowloa usually turns out as follows:

	Mds.	S.
Dobarra chinee	0	24
Molasses	0	12
Wastage and scum	0	4
Maund...	1	0

Mode of obtaining Sugar from Molasses.

Two maunds of maut (the draining of crude goor) and twenty seers of sote, the drainings of chenee, are mixed in a jar with five seers of a ley of plantain ashes, and put on a very strong fire to boil; five seers of this ley is found by an experiment to contain two chittacks and a half of alkali. The boiling is continued for two hours, in which time a seer of milk is gradually thrown in; the hot liquor is next taken up in buckets and poured into another vessel, where two men stir and agitate it for half an hour with a labree and hatta; (labree is a thick bamboo with a wooden bucket fastened at the end; hatta, a thick bamboo with a broad piece of wood at the end, like the broad end of an oar;) ten seers of khaur are then thrown in, and the whole mixed and jumbled for half an hour longer; in this state it is left to settle for eight or nine days, in which time it becomes thick and grained like goor procured by boiling down the juice of the cane; it is next put into baskets to drain, as before described under goor.

The above mass consisting of

Maut	Seers 80
Sote	20
Khaur	10
	110 seers usually

produces ninety seers of goor, the wastage in the process being about twenty seers, and a maund of this goor usually yields

Khaur	Seers 15
Molasses	25

This khaur may be made either into dowloa or chinee, the process of which has already been described.

The sugar-boilers report that sugar cannot be obtained from these molasses.

Santipore, 2d July, 1793. E. FLETCHER.

LETTER from the Commercial Agent at Radnagore, 13th August, 1793.

Gentlemen:—I have been favoured with your Secretary's letter of the 5th instant, desiring without delay the information required by your circular letter of the 14th March last, respecting the process of making sugar.

Letter from Agent at Radnagore, 13th Aug. 1793.

2. These I should have transmitted long ago, but from a conviction that it was not in my power to add any thing to what I had before submitted to the Board, except from the result of actual experiments, some of which are yet incomplete.

3. The sugars on which the first trials were made by the sugar-refiners in England, in compliance with the desire of the Honourable Court of Directors, were I believe sugars of Benares, which though the most esteemed by the natives, are very unfit for refining in Europe. They are cleared with milk, which gives them colour, and I believe some ghee (butter) is used; they are very high boiled, which prevents their parting freely from their syrups or molasses, and I have been told they have frequently a quantity of fine white flour

Letter from Agent at Radnagore, 13th Aug. 1793.

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mixed with them. They have, I believe, a mode of breaking the grain, which also adds to the colour, but which mixes together so completely the different substances, that it is found difficult to separate the pure sugar; and hence, I apprehend, arises that soapiness of which the sugar-refiners complained.

4. In boiling the cane-juice into jaggree, I have never met with or heard of any other ingredient being used but the water of lime or wood ashes, and commonly the latter; both these are used in the most approved processes in the West-Indies; and being alkalies, calculated to correct the acidities of the cane-juice, cannot, I suppose, be attended with any pernicious effect whatever. The only thing I know against taking the jaggree and draining the syrups, and drying the remainder into genuine muscovado sugar, is the high rate of freight which our Honourable Employers must be liable to pay, while ships fitted out in so complete a style for voyages of eighteen, twenty, and twenty-four months, are employed; and which must take from their profits, not on sugar only, but on other gruff articles, which at a moderate freight might be exported from this country much to its benefit.

5. In Beerbhoom, and in the northern parts of this aurung, the use of milk and water in refining is I believe little known; a lye of kaar or wood-ashes is in general used, and sometimes a little lime-water. The sugars so prepared are what I apprehend will answer best for the pans of the London refiners. I have taken every measure in my power, throughout this aurung, to lessen the use of milk in refining, as well as breaking of the grain, and I have some hopes that the sugar of the present year will be in general liked by the refiners.

6. Whatever information I have from time to time been able to acquire, I have most cheerfully submitted to the Board. I am sensible of the inestimable comfort and advantages that the natives of these provinces must derive from the demand of sugar for exportation to Europe. On receipt of your commands of the 14th March, I took measures for making, under my immediate inspection, every experiment I thought might be satisfactory to the Board. I purchased a quantity of jaggree of the different sorts, and am making sugar in different modes. The result of these experiments shall be laid before you, as well as those of the jaggree received from Commercolly, as soon as completed. The only materials used by the sugar-boiler in refining this, is milk and water; and Maunds 5 8 8 of 62 sicca-weight of milk have been expended in the process.

7. I also purchased in Burda (a village about a mile from Guttaul) all the sugar-cane which belonged to one boiling-house, and employed in boiling the cane-juice at once into sugar, the same people, the same mills, the same pans, that the owners of the cane would themselves have employed in making the jaggree, and under the same choppah they had themselves prepared; the very man that used to have charge of the business for the villagers had charge of it for me, assisted and checked by a sircar and sugar-boiler of my own. Lime-water and the lye of wood-ashes were the only ingredients used: the result, however, was not so favourable as I had expected; and what has tended further to convince me of the knowledge of the natives, and the attention due thereto, is, that a patch of about two begahs of the finest cane I almost ever saw, and to appearance by much the finest any where near here, yielded less good sugar than cane apparently far inferior. The natives told me this would be the case; but though I did not then believe them, I kept the produce separate, and am now convinced they were right. During the time the boiling continued, I regularly attended morning and evening. The result of these experiments are submitted to you herewith, and the sugar shall be sent separate. I paid, as may be supposed, very dear for the canes, and the expense incurred by me for labour would have been saved to the ryots themselves.

8. I shall make a point of submitting to the Board every information it may be in my power to obtain on this interesting subject, and am with great respect,

P. Touchet, Agent.

Radnagore, 13th August 1793.

Letter from Agent at Radnapore, 13 Aug. 1793.

Experiments in Sugar.

Dr. *Sugar Cane at Burda.* Cr.

Paid Duloll Metre for two begahs cane, to include the use of the oak saul, or boiling-house	50	0	0	By produce of canes, cawns 42 4 10, which yielded 234 3 maunds of 62 sicca-weight of juice, sugar maunds 2 2 12 of 80 sicca-weight, valued at sicca rupees 7 8 per maund ..	15	8	0
Turning and attending the mill, 104 men 3 months 14 days, at 3	10	6	6	Molasses or syrups maunds of 80 sicca-weight 14 9 valued at 1½ ..	21	5	6
Cutting and bringing in the cane ..... men 79				Tipps, maunds 4 19 4 of 80 sicca-weight, at 3 12	16	12	10
Digging the furnaces .. 6½							
Attending do. 24½							
Setting the pans 32							
4 months 22 days, at 2½ per day 142	11	13	6				
Attending the fire 10 days, at 3 per day	1	0	0				
Carpenter putting up and attending the mill, 8 2 at 3 8	0	15	9				
Boiler that used to attend 8 2 at 3	0	13	6				
Six pieces wood for cylinders for the mills 5							
Preparing do. 12	—1	1	0				
Boiling and other pans	1	10	3				
Moulds for receiving the sugar	1	5	2				
Fire-wood 32 2 maunds	2	11	8				
Bringing in do.	0	8	0				
Beech chinee, or sugar used to assist granulating	1	8	0				
Matts, skimmers, and baskets, &c...	0	12	10				
Cloth for straining	0	3	0				
Oil for lamps	0	13	0				
Wood ashes, 22 seers	0	1	3				
Chunam, 2½ do.	0	0	6				
Sugar boiler attending	2	4	0				
Sircar .....do.	2	8	0				
					53	10	4
				Loss	36	13	7
Sicca Rupees	90	7	11	Sicca Rupees	90	7	11

This cane appeared very fine rich cane, but the nature of the produce shows at once that it was very improperly treated in the process.

Dr. *Sugar Cane at Burda.* Cr.

Paid Rum Derrea for one piece cane .,...B 1 8.. 21Rs.				By produce of canes, cawns 246 11 10, yielding juice of 62 sicca-weight. Maunds 225 1 2; sugar, maunds 4 7 12 of 80 sicca-weight, valued at 7 8	31	6	6
One ditto 0 11.. 12				Molasses or syrups, maunds 15 13 at 1 8	23	11	9
	33	0	0	Tipps, 26 seers, at 3 12	2	7	0
Paid Gouree Saussmut for 1 piece cane 11 cottahs	14	0	0				
Begahs 2 10.....	47	0	0		57	9	3
Proportion of expenses incurred as detailed in the other account....	40	7	11	Loss	29	14	8
Sicca Rupees	87	7	11	Sicca Rupees	87	7	11

Letter from the Commercial Resident at Soonamooky, 22d August 1793.

Letter from Resident at Soonamooky, 22 Aug. 1793.

Gentlemen :—I was duly honoured with your orders of the 14th March last, together with copies of the letters addressed to the Committee of Warehouses by the Sugar Refiners in England.

2. In the account which I had the honour to transmit you on the 22d July 1792, I was obliged to report from hearsay more than actual experience, although I had, by attending to the sugar-boilers, obtained some insight into the manufacture; but having this season conducted the detail, I can report the process as followed at the factory, and correct such parts of my former letter as may require it.

3. I see no reason to make any alteration until I come to the eighth paragraph, when I ought to have added, to the proportion of each maund of goor about fourteen ounces to a pound weight of wood ashes is thrown in, during

Letter from Resident at Soonamooky, 22 August 1793. Experiments in Sugar.

during the boiling, to occasion the dirt &c. to rise to the top, which is scummed off,* and also with the intention of strengthening the goor. The wood from which these ashes are obtained is generally the asheem, the English name of which I do not know; or from the saul tree, which it greatly resembles in appearance; but the former is preferred, and of both these leys I shall send you a maund in a small box to be analyzed.

In Burdwan the plantain tree furnishes the wood ashes, and of it also you shall be furnished with a sample; but none of the Berbhoom sugars are prepared with it.

4. The latter part of the ninth paragraph should be omitted, substituting in its place that the drippings from the bags are preserved, and, undergoing another process, which I shall explain in my next paragraph, are manufactured into sugar. The goor which remains in the bag is a strong brown raw sugar, called kaur, and is manufactured in the manner laid down in the tenth paragraph, and clayed by the process mentioned in the twelfth.

5. The drippings from the bags being reserved, are again boiled up with a mixture of wood ashes, in the same manner as the juice from the cane, and are left to cool for four, five, or six days; when settled, the light liquid called saucy rises to the top, and is removed, being preserved for sale. The remainder is kept in the jars some days when the further light liquid which may arise is taken away, and being thicker and of more substance than the former, is named gurrul, which is also for sale. To the subsiding goor is added a quantity of beech (vide margin),† in the proportion of maund 1 $15\frac{1}{2}$ to maunds 8 22 of the drippings, which being well beat with a ladle like those used in the breweries in England, produces a strong goor like that from the juice. The same detail of straining it is again practised before its manufacture into sugar, but the second drippings from the bags will not yield any sugar, or in so small a quantity as to be not worth the boiling.

6. The repeated boilings seem strongly to corroborate the opinion of Mr. Travers respecting the Soonamooky sugars, and from an analyzation of the leys used in the manufacture, he will be able to form a decided judgment on the subject, and very possibly to recommend a different mode of treatment which may improve the sugars; for it must be recollected that this is a manufacture with which I am altogether unacquainted even in theory, and merely follow the method adopted by the natives. I however differ with Mr. Travers respecting the size of its stone when candied, for it by no means appears small, and for its whiteness equal to any China candy that I have seen. Small samples shall be sent you for inspection.

7. The weeds with which the sugars are clayed have a strong clammy feel, and give a disagreeable smell to the upper part of the pots, which however evaporates when drying in the sun, and I should not be surprised at there being some quality in them which occasions the toughness mentioned by Mr. Travers, although I am rather of opinion that that circumstance is occasioned by the sugars being not quite clayed when taken out of the jars, or perhaps to adulteration.

8. The process of manufacture throughout the aurung is not exactly the same, because in Burdwan the straining is performed in baskets, which require infinitely more room, and occasion greater labour; but with the exception of the different qualities of the wood ashes, in other particulars I do not observe any material difference.

9. The quality of the goor, and consequently that of the sugar, greatly depends upon the weather; for both articles prepared in the hot months are much superior to that made in the rains (not that I mean goor is boiled in the rains, for the canes are all cut long before), and of course it would appear to be an object well worthy of attention to contrive some machine, simple in its nature

* Some cattle will eat the scummings.

† When the goor is first brought to the factory a selection is made of the strongest grain, which is set apart and called beech; after which the remainder is put into the bags to drain.

Letter from Resident at Soonamooky, 22 August 1793.

Experiments in Sugar.

nature and of small expense, which would press a greater number of canes than those now in use, for the ryotts are obliged to prepare the goor as fast as the canes are cut down; and not having a sufficient number of pressing machines, the crop remains on the ground for each inhabitant of the village to have his turn, and some of them must necessarily meet with damp weather, which injures the produce of their canes. If, however, some contrivance of the nature I mention could be found out, they would have a better opportunity of availing themselves of the favourable weather.

10. I have this day forwarded along with a dispatch of sugar a few pots of Beerbhoom goor for your examination, and subjoin a detail of the sugar produced from a given quantity of a similar quality agreeable to the process detailed in the fifth paragraph.

I have, &c.

Soorool, 22d August 1793. J. CHEAP, Resident.

Detail of the produce of a given quantity of Beerbhoom Goor as observed at the Manufactory at Soorool.

Original quantity put into the bag, Maunds 12 0

Produce.	Maunds.					
Mahoot or drippings from the bag...	6	2				
Coterah do. from the sugar whilst claying.....	2	20				
Scum or wastage.....	1	8				
	9	30				
First produce sugar,...Maunds				2	10	
Second Operation						
Mahoot and coterah, as above			8	22	0	
Add beech			1	15	$9\frac{1}{4}$	
Saucy or first light liquid	2	0	0			
Gurraul or second ditto.....	1	24	$3\frac{3}{4}$			
Mahoot or drippings from the bag...	2	4	$13\frac{1}{4}$			
Cotterah or do. from the sugar	1	10	$11\frac{3}{4}$			
			6	39	$11\frac{3}{4}$	
Scum in the regenerating the goor...	1	19	$13\frac{1}{2}$			
Do. in boiling into sugar.....	0	13	0			
			1	32	$13\frac{1}{2}$	
			8	32	$9\frac{1}{4}$	
						1 5
Total sugar produce,...Maunds						3 15

Quantity expended: maunds Goor...	12	0	0			
Beech.....	1	15	$9\frac{1}{4}$			
				13	15	$9\frac{1}{4}$
Produce sugar.....	3	15	0			
Mahoot ..... 2 4 $13\frac{1}{4}$						
Coterah ..... 1 10 $11\frac{3}{4}$						
Gurraul ..... 1 24 $2\frac{3}{4}$						
Saucy..... 2 0 0						
			6	39	$11\frac{3}{4}$	
Scumming or wastage:						
First process 1 8 0						
Second ditto ..... 1 32 $13\frac{1}{2}$						
	3	13	$0\frac{1}{2}$			
				13	15	$9\frac{1}{4}$

LETTER from the Commercial Agent at Benares, 26th May 1793.

Letter from Commercial Agent at Benares, 26 May 1793.

Sir :—In consequence of the receipt of a letter from the Board, under date the 14th March, I have the pleasure to deliver over to you five samples of sugar made under my immediate inspection, to ascertain, agreeable to the Board's order, the process in use with the natives of this country.

Letter from Commercial Agent at Benares, 26 May 1793.

Experiments in Sugar.

On the 1st of April I began the experiments; but owing to the strong hot westerly wind having set in, and the season for expressing the juice from the cane being expired, I with difficulty obtained sufficient cane to make the samples No. 1 and No. 2.

No. 1 is part of the produce of about one maund of cane. The cane was cut in my presence and immediately chopt with an iron instrument into small bits about four inches long; it was then conveyed to a mill on the spot in baskets, containing each seven or eight seer, and the operation of extracting the juice lasted two hours and a half.

The mill used by the natives is a large stone about four feet high, firmly fixed in the earth; the top of which is excavated so as to contain from seven to eight seer of the cane with the timber that expresses the liquor, and a hole is made in the side for it to run through into the receiving vessel. The mill is worked by two bullocks.

When the liquor had been extracted from the whole of the cane it was boiled without either straining or purifying; it was then put by to cool, when about a table-spoonful of ready-made cheenee was mixed with it to promote granulation. After remaining three days in this state it was moistened with water, and put into a bag with weights upon it to press out the molasses, for three days more, when it became shucker. It was then mixed with water to bring it into a liquid state, and the operation of boiling commenced. As soon as it began to boil about two spoonfuls of milk were poured in to make the dirt rise to the top, and with a perforated iron ladle the scum and filth were constantly taken off; milk and water was occasionally thrown in, until no dirt nor scum remained: it was then taken off the fire, and strained through clean cloth into an earthen vessel. The filth and dirt that had been scummed off were strained into the boiler where it was boiled, and, if necessary, purified and scummed, and again strained into an earthen vessel. The whole of the purified liquor then underwent its third and last boiling over a very quick fire.

There are three ways, when the sugar boils up with impetuosity, made use of by the natives to allay it.

The first is by stirring it quickly with the perforated ladle in a perpendicular manner, and letting it fall again into the boiler, which, if not sufficient, they add a deep iron ladle larger than a soup spoon, which they place in the boiling liquid with its bowl upwards; but if these two modes are inadequate a spoonful of milk reduces its turbulency instantaneously. To ascertain its having boiled sufficiently they try it with the finger and thumb, and if ropy the process is complete.

When it was sufficiently boiled it was removed from the fire and stirred in the boiler (another spoonful of ready made cheenee having been mixed with it), until it became somewhat cool, and then it was poured into an earthen vessel in the form of a sugar-loaf reversed, with a hole at the bottom, which was stopped until the liquor was cold and brought to some consistency. The plug was then taken out, and the molasses dropt from it for 2 days. The surface was then covered with a wet grass called sewar, and the sugar scraped off as it became white, the wet grass being renewed every two days: after the sugar was scraped off, it was rubbed with the hand on a clean cloth in the sun, the quantity being too small to require treading out as is the custom of the country, and when dry was passed through a sieve.

No. 2 is the same process as No. 1, with this alteration: while the liquor was extracting from the cane a fire was lighted under the copper, into which it ran, and a cloth was put over the boiler for it to strain through, and in the first boiling as well as the second it was purified with milk and scummed.

No. 3 is produced from shuckar purchased from the natives, boiled, purified, and potted, as in process No. 1, and a muster of the shucker from which the sugar was made accompanies it.

No. 4 is produced from bheelee, and a muster of the bheelee accompanies it.

No. 5 is an experiment from an inferior kind of shucker, with the substitution of lime and alum-water instead of milk, in the proportion of two bottles

bottles of lime to one of alum-water, and instead of using the wet grass called sewar it was clayed: this is a process not in use among the natives.

Letter from Commercial Agent at Benares, 26 May 1793.

As the object of the Board's inquiry was the process as followed by the natives, I have not attempted to ascertain the expense or proportionable produce; nor indeed, at the advanced season of the year in which I made the experiments, could it be done with any degree of certainty, the cane not yielding half the quantity of liquor as in the months of January, and the price of shucker and bheelee, which I bought for experiments No. 3, 4 and 5, being in proportion to the present high price of cheenee.

Experiments in Sugar.

One seer of milk is more than adequate to the purification of a maund of shucker. The process of putting weights to extract the molasses and potting is lengthened in proportion to the quantity.

I am, &c.

Ghazeepore, 26th May 1793. J. M. Playdell, Assistant.

Extract Letter from Board of Trade, 25th November 1793.

2. The sugar refiners in England having desired to be furnished with a minute description of the processes which the commodity undergoes in each separate district here, to assist their judgment in applying and varying their operations in such manner as should best suit with the treatment of the commodity in its first stage of manufacture, we directed the several sugar agents to cause experiments to be made under their own immediate inspection, noting particularly the sorts and the quantities of the ingredients used: and we now transmit copies of their reports. On the ship Princess Amelia are forwarded samples of the sugars so made at Benares factory, and of sugar-candy from Soonamooky, together with some of both species of the lyes mentioned in the report from the Resident at the last-mentioned place.

Letter from Board of Trade, 25 Nov. 1793.

3. The Honourable Court will herewith receive copies of the reports of the Acting Collector at Benares, and such of the Commercial Agents, respecting the cultivation of sugar, which were not received in time for transmission with the reports from the other stations.

6. Being in the habit of communicating to the sugar agents weekly the prices of sugar in the Calcutta market, to guide them in making their purchases, as the Calcutta prices must ultimately regulate those of the aurungs, and conceiving that such information may be satisfactory to the Court of Directors, we enclose a statement of the weekly rates, from the 26th August to the 25th November. These rates, it is at the same time to be remarked, probably somewhat exceed what the sugar might be actually purchased for in Calcutta, the information being furnished by brokers, who may be supposed to state the highest prices that are demanded.

See Weekly Reports in Fourth Appendix.

7. The Honourable Court will perceive that the prices are lower than they were last year; this we attribute chiefly to the war in the Netherlands, which has checked the spirit of adventure to Ostend, and in some degree to a scarcity of foreign tonnage. The price of sugar has lately been less in Calcutta than it was some months ago at the aurungs, and as there is a considerable quantity in the place, we apprehend the speculators will greatly suffer, and that there will not, in consequence, be such a vehement competition for the ensuing year's investment as there has been for that of the present; but we do not expect that the article will be at its former rate till the price considerably abates in Europe.

Extract Letter from Board of Trade, 14th January 1794.

8. On the subject of the consignments, we have to notice in this place particularly only the sugar, which comes high, and is some of it of inferior quality, owing to the vehement competition which prevailed for obtaining the produce of the crop of 1793. We hope that the provision for 1794 will be effected upon more reasonable prices; to which point the proceedings noted in the margin,* will shew we are giving much attention.

Letter Board of Trade, 14 Jan. 1794.

P.S. A few maunds of Batavia sugar obtained here are sent on the Rodney as a specimen.

On

* Consultations, 7th October, 4th and 14th November, and 23d December.

Letter from Board of Trade, 14 Jan. 1794.

On weighing some bags of the Rungpore sugar laden on these ships, the weight proved rather deficient; but the difference between the tare of the bags after being washed being about equal to the apparent deficiency in the weight of the sugar, it has been invoiced for Europe as it came from the factory, there being no reason to doubt its having been packed of full weight at first.

The Benares sugar, on weighing here, has rather exceeded the invoice weight from the factory; but no alteration has been made in invoicing it for Europe.

EXTRACT Letter from Board of Trade, 13th February 1794.

Letter from Board of Trade, 13th Feb. 1794.

15. Mr. Francis Horsley, as agent to Mr. Palmer, having under date the 15th October last, signified to your Honourable Board that he had no sugar to tender to the Company for sale, the six hundred tons stipulated in the agreement between Mr. Palmer and the Court of Directors, to be allowed him for freight on the sugar ships, have been allotted for him, which his agent has made his option of filling in the following manner:

Sugar.....	100 Tons
Cotton	200
Saltpetre	300
	600

Tons 289 are laden on the five ships now dispatched; the remainder is, by Mr. Horsley's desire, allotted on the General Coote.

16. Mr. Horsley having, subsequently to his notification above-mentioned to your Honourable Board, made a tender to us of some sugar for sale, which we thought fit to decline, we deem it proper to transmit herewith, for the observation of the Court of Directors, copy of his letter, with copy of a Minute we recorded on the occasion.

Not printed.

17. Mr. James Paul, of Lucknow, having made proposals to your Honourable Board for providing a quantity of sugar, to the amount of 60,000 maunds, annually, for the present and ensuing years, which proposals you were pleased to refer to us for our opinion; we beg leave to transmit herewith copy of it, and our report in consequence, with the Inspector's report on the musters, for the observation of the Court of Directors.

See the second Appendix.

18. Enclosed we beg leave to send, for the observation of the Court of Directors, copy of our Minutes on various parts of their general letter of 25th June 1793. Under the head of sugar, having entered into some discussions on the subject of extending and improving the trade in that article, we beg to call the Honourable Court's particular attention thereto. One of the musters of sugar mentioned in it accompanies this address.

EXTRACT Letter from Board of Trade, 10th June 1794.

Letter from Board of Trade, 10 June 1794.

2. The sugar per Boddington, from Dacca, we beg leave to point out for the particular notice of the Court of Directors. It was made at Bazetpore, a district from which sugar was never before exported, and appears to be of a quality which will answer for the investment, if the price can be brought to a moderate rate. This parcel, which consists of about one hundred maunds, standing invoiced for Europe at S.Rs. 15 2 2 per factory maund, is of course to be considered as sent merely by way of sample of the produce of the district, not as a mercantile speculation. Enclosed we transmit copy of a letter from the Resident, and of the statement referred to in it, showing the particulars of the cost at the factory, and also copy of the Inspector's report on the consignment.

3. The seven bags of Santipore sugar distinguished in the invoice as "made on experiment," are the result of the experiments by the Resident for ascertaining the quantity of sugar capable of being obtained from certain quantities of goor and khaur in different parts of his aurungs.

LETTER from Commercial Resident at Dacca, 4th March 1794.

From Commercial Resident at Dacca, 4 March 1794.

Gentlemen:—I have the honour to enclose an invoice of one hundred maunds eight seer four chittacks of Bazetpore sugar despatched to you the

Letter from Resident at Dacca, 4 Sept. 1793.
Experiments in Sugar.

the 19th ultimo, amounting to C.Rs. 1,679 10 5. A statement formed from materials furnished by the Bazetpore gomastah accompanies the invoice for the purpose of showing the manner in which the invoice has been prepared. I am extremely sorry that the cost of the sugar should have turned out so very high, so much beyond the rate calculated on in my letter of the 16th October last. From this experiment, and from information received relative to the manufacture of sugar at Bazetpore subsequent to the date of the letter above-mentioned, and which I shall shortly lay before you, I am satisfied it cannot answer to the Company to continue to make sugar in this province.

I have, &c.

Dacca Factory, 4th March 1794. J. TAYLOR, Resident.

Statement explanatory of the Invoice, formed from an Account transmitted by the Gomastah of Junglebarry Bazetpore.

	A.Rs.			S.Rs.		
Cost of 840 maunds 26 seer of goor	2,021	11	9	1,885	1	11
Charges bringing goor from different places	66	15	6	62	5	9
Earthen pans, &c. for boiling goor	12	6	3			
Coonda and earthen pots.....	16	3	3			
Bamboos, jute, and gunney bags for pressing goor.....	9	13	9			
One scale for weighing goor	2	4	3			
Iron rod, ladle, scraper, &c.	5	0	0			
Two large cunches for pounding sugar on...	1	0	0			
Milk.....	15	10	9			
Cloth for straining and drying goor.....	4	4	3			
	66	10	6	or 62	1	0
Dufter charges, oil, &c.	4	7	3	4	2	5
Fire-wood.....	97	6	3			
Deduct estimated cost of fire-wood remaining on hand	40	0	0			
	57	6	3	or 53	7	0
Wages to the sugar manufacturers, &c.	115	1	6			
Established servants' pay, from October to December, is three months, at A.Rs. 37 per month	111	0	0			
	226	1	6	or 210	8	1
Building a cootey	104	9	9	or 97	6	4
Charges transporting sugar to the sudder:						
Boat hire.....	10	0	0			
Matts, &c. for dunnage	1	0	0			
Cooley hire for loading the bags	3	7	0			
	14	7	0	13	7	1
Boat hire, &c., sending money to the aurung for the purchase of goor	10	0	0	9	5	0
				2,397	12	7
Deduct:						
Building a cootey	97	6	4			
Estimated value molasses remaining, A.Rs. 1,000 or	931	0	7			
				1,028	6	11
				S.Rs.... 1,369	5	8
Batta 16 per cent.....				219	1	7
				C.Rs.... 1,588	7	3

EXTRACT Letter from Board of Trade, 8th August 1794.

Letter from Board of Trade, 8th Aug. 1794.

1. We have received your letter of the 1st instant, and having in consequence thereof proceeded to consider how much sugar may be estimated for the provision of 1795, we find, as the accompanying minute shews, that not more than eight lacks and a half of sicca rupees can be allotted for that article, which, upon the best conjecture we can now form, may provide a quantity of 1,000 tons of raw, and 3,623 tons of chenee ekbarra or soft sugar; total 4,623 tons. And we request you will accordingly be pleased, by an overland dispatch, to apply to the Honourable Court of Directors for tonnage for 4,623 tons of sugar, to be exported in the shipping season of 1795–6.

2. We estimate that the raw sugar will cost per factory maund S.Rs. 3 14, and the chenee 6 12, including commission and all charges to the presidency. But we beg it may be understood that we have assumed the above prices merely for the purpose of estimate, it being impossible to say so early what the prices may be, or how the crop may turn out. The planting season has been favourable, and the young canes in this part of the country look well; but the circumstances which chiefly govern the market here, are the prices upon the continents of Europe and North America, and the rate of freight. There is every reason to conclude that American vessels will gladly resort hither in peace, if they can be assured of a freight of sugar at £12 per ton: and the estimate accompanying our minute of an adventure to Ostend, shews that a selling price at Ostend equal to fifty shillings per cwt., and a freight at the above rate, will encourage speculation for that port in peace, whenever chenee or soft sugar may be procurable for less than S.Rs. 8 per bazar maund.

3. We request you will also please to notice to the Court of Directors, that experience shews that intermediate persons will not contract for sugar long beforehand on any reasonable price; and indeed that no man but the cultivator can do so without danger of ruin. That thence it follows the Company must, in case of a rise in price, either conform thereto, or risk the having a quantity of tonnage upon their hands in India. We further request the Honourable Court may be assured that no endeavours of ours shall be wanting to procure the article upon the most moderate terms.

MINUTE of the Board of Trade, 8th August 1794.

Minute of the Board of Trade, 8 Aug. 1794.

The Board understand that the sum of C.Rs. one hundred and five lacks is payable in cash, and that it is to be allotted solely to the consignment of goods to the Honourable Court of Directors.

Eight lacks and a half of sicca rupees may be estimated to purchase of sugar as follows:

Factory maunds 30,000 of khaur or raw sugar, at S.Rs. 3 14 per maund	S.Rs.	1,16,250
1,08,700 of chenee ekbarra, or soft sugar, at S.Rs. 6 12*		7,33,725
1,38,700, or 4,623 tons	S.Rs.	8,49,975

These prices include all charges to the Presidency.

Estimate of profit on an adventure of chenee consigned to Ostend.

S.Rs. 8 per bazar maund of 82 1/8 lbs. for 118 lbs. shipped to ensure the delivery of 112 lbs., amounts to nearly S.Rs. 11 8 say S.Rs. 11 8 at 2s. 4d.	£1	6	10
Freight £12 per ton on 118lbs. shipped	0	12	7.71
	£1	19	5.71
Insurance on 43s. to cover the above at 5 per cent.			
Correspondent's commission ..... 0 1/2 —5 1/2 per cent. or	0	2	4.38
Total outlay.....	£2	1	10.09

* This is rather above the price of a considerable quantity just arrived from Benares.

Total outlay brought over...			£2	1	10.09
	s.	*d.*			
Commission at Ostend 2½ per cent.....	1	6			
Charges landing and housing estimate.....	1	0			
Commission to correspondent in London, receiving amount sales	0	6			
			0	3	0
			£2	4	10.09
Sale price of 112lbs. supposed to be delivered.....			2	10	9
Profit above 12 per cent. on the outlay			0	5	1.91

Minute of the Board of Trade, 8 Aug. 1794.

A discretion having been given by the Court of Directors with respect to the nature of the Nancy's cargo, we beg leave to refer them to the Consultations noted in the margin* for a Minute of our Board, containing the grounds on which we have given the bulk in sugar.

LETTER from the Board of Trade to the Governor-General in Council, 11th November 1794.

Letter from the Board of Trade to the Governor General in Council, 11 Nov. 1794.

Honourable Sir:—In consequence of your directions of the 24th ultimo, we transmit a minute of our proceedings of this day, which will give you the best view in our power of the out-turn of the consignments of sugar of last season; and we have the pleasure to observe, that though they were provided during a vehement competition, the result encourages a perseverance in the trade, especially when it is borne in mind that we are comparing purchases made here at excessive prices, with the sales of a very depressed state of commerce in Europe, and that to the introduction of sugar may be fairly attributed the reduction that has already taken place in the cost of freight.

We are, &c.

Fort William, 11th November 1794.

MINUTE of the Board of Trade, 11th November 1794.

Minute of the Board of Trade, 11 Nov. 1794.

The Board, in forming the estimate required by the Governor-General in Council, in their letter of the 24th October, think it proper to estimate the freight at the reduced cost of freight which has been effected since the end of 1791 or the beginning of 1792 in the Company's shipping, because it is the introduction of sugar into the Company's investment that has occasioned the strenuous endeavours to reduce the cost of freight. To the same cause the Board attribute their being enabled to occupy the surplus tonnage they have done of late years; and, therefore, they also carry this to the credit of the article. Upon these premises the freight for the sugar of last year will stand thus:

Tons.		£.	*s.*	*d.*
410½	surplus tonnage on full armed ships.....	13	5	0
108½	ditto on half-armed ships	10	0	0
49	ditto on two ships *via* Botany Bay	4	0	0
568	total surplus tonnage			
700	chartered tonnage of two ships *via* Botany Bay...	8	0	0
3,272	upon the six half-armed ships taken up as follows:			
	£8 per ton out.			
	12 ditto home.			
	1 extra on account of the war.			
	1 allowance for extra pay to seamen.			
3,972	.....	22	0	0
4,540	average per ton, £18 4*s.* 4*d.*			

N.B. These six ships were chartered for 4,698 tons; there then remain 1,426 tons at reduced freight, which apply to other goods. The saving to the Company,

* Consultations, 25 June;

Minute of Board of Trade, 11 Nov. 1796.

Company by this may be fairly placed to the benefit produced by the sugar trade, but the Board will not reckon it in the present estimate.

The loss of weight the Board agree to estimate at 3 per cent., that being about the loss upon the sugar which has been purchased at the factories and consigned home.*

The charges merchandize in England they will take at 5 per cent. on the sale-price, though the Company's hoyage, landing, housing, weighing, and lotting probably do not exceed one shilling per cwt.

The prices of the sugar in the last received vary so much upon the different sorts of sugar, and upon the different days, that it is not practicable to form the estimate precisely upon those prices; it will, therefore, be better to ascertain for how much the sugar must sell to repay the cost and charges, and compare this as far as the Board are enabled with the general result of those sales.

The following estimate shews that the sugar must average near fifty-six shillings per cwt. to reimburse the Company.

Prime cost and charges in India on 90,811 cwt. of sugar S. Rs. 12,83,526 at 2 4 per Sicca rupee				£149,474	14	0
Freight, *viz.* on 410½ tons at £13. 5s. per ton	£5,439	2	6			
108½ ditto, at £10 per do.	1,085	0	0			
49 ditto, at £4 per do	196	0	0			
700 ditto at £8. per do.....	5,600	0	0			
1268 tons	£12,320	2	6			
3272 ditto at £22 ...	71,984	0	0			
4540 tons				84,304	2	6
Charges five per cent. on sale price				12,318	6	7
				246,367	3	1
Profit				276	8	11.
				£246,643	12	0

Cwt. 90,811			
Deduct 3 per cent. for loss and wastage,	2,724		
Cwts. 88,087, at £2. 16s. per cwt. ...		£246,643	12 0
		£246,643	12 0

14th November.

Freight is here estimated upon the weight shipped, but by some late agreements it appears the Company now pay freight only upon the weight delivered in London.

Authentic private advices which have been seen by the Board shew that the large quantity of sugar sold on the 23d July 1793, averaged near 62 shillings per cwt., they have not seen any average of India sugar since that day. In September. there appears to have been a fall, owing, probably, to an unusual quantity on board the West-India fleet then just arrived in England, and to the very unfavourable state of commerce at that period. In October the price was rising, and the London price currents indicate favourable prices at a later period.

Throughout the whole of 1793 commerce in Europe was in a very depressed state, but the Company's sugar was in fact a ready-money article, being sold at a prompt of less than two months, while credits of a greater extent than usual were given on other commodities.

The sugar of the season in question was purchased under the disadvantage of vehement competition occasioned by the high price in Europe, and more immediately by the advices received here of the insurrections at St. Domingo: the price has, therefore, been uncommonly high, and if the out-turn proves merely

* Since this minute was drawn up the Board have learnt that no more than two per cent. is to be allowed to the ship-owners for loss of sugar by wastage: copy Charter-party of India Trader, &c.

Minute of Board of Trade, 11 Nov. 1794.

merely a saving concern it will be all the Board expect. But they would have recommended the pursuance of the endeavour to establish the trade even at some loss in the outset. What the sugar may sell for cannot well be estimated, the price in Europe depending chiefly upon a good or bad crop in the West Indies. The internal commotions and hostile operations in the French Islands must occasion a defalcation of produce; and, on the other hand, it is probable the state of France and the war with that country may cause a decrease of consumption; and again, the increasing population of America cause a great increase of consumption. All these circumstances must affect the price in Europe.

But the Board conceive that to judge properly of the trade, considered as a permanent object, it should be examined upon the principles laid down by the Court of Directors respecting an adventure they recommend in wax. Instead, however, of taking the peace freight at £12 per ton, the Board will assume £15, being the price at which individuals obtain the Company's freight in peace, and they will allow one shilling per cwt. for all the home charges specifically disbursed upon the article; according to these data a price of about 50 shillings will reimburse the outlay, as is shewn in the following estimate:

Prime cost as before...	£149,744	14	0	8,807 cwt. nett, at £2 10s. 0d. per cwt.	£222,387	0	0
Freight on 4,540 tons, at £15 per ton	68,100	0	0				
Charges at 1s. per cwt.	4,404	7	0				
	222,249	1	0				
Profit	138	9	0				
	£222,387	10	0		£222,387	10	0

EXTRACT Letter from Bengal Board of Trade, 29th December 1794.

Letter from Board of Trade, 29 Dec. 1794.

2. We have earnestly endeavoured to reduce the price of the sugar of the present year's investment as nearly as possible to the former level, and to obtain it of the best quality with regard to the different assortments.

3. The high rates of war freight, and the insurance upon foreign as well as upon English ships, the accounts of a reduction of the price in Europe, the precarious state of the port of Ostend, and a less resort than heretofore of American ships, occasioned, as we imagine, by their finding employment nearer home, have greatly diminished the export on account of individuals, and were favourable to our endeavours; but we are concerned to say, these endeavours have not had the success we wished rather than expected. We, however, see no cause of dissatisfaction with the agents; for we are convinced that the continuance of the price is to be attributed to the cultivation not having kept pace in any considerable degree with the Company's export alone. The export, increased beyond its former rate, still encroaches upon the interior consumption of the country, and consequently keeps up the price.

4. Considering the general poverty of the peasantry of these provinces, the expense of the cultivation of sugar-cane, the length of time before the returns are made, and the several persons whose interests are first affected and benefited, ere the peasant can find his condition bettered, and his means enlarged by the increased price given by the exporter, we own we are not surprised that the unusual export for these four years past has not had a greater effect than we experience in extending the cultivation.

5. At Benares our endeavours have been more successful than in Bengal. We suppose this to be owing to the sugar which was exported from Calcutta to other parts of India previous to the commencement of the trade to Europe and America, being chiefly produced in the Benares zemindarry; that the new trade has turned the course of export, and has less intruded upon the interior consumption of that province than it has upon Bengal, consequently the price will easier abate.

Letter from Board of Trade 29 Dec. 1794.

6. At the large aurung of Rungpore in Bengal, the Resident has been involved in considerable difficulties, owing to the excessive prices demanded of him. With a view to render these more moderate we repeatedly reduced the order for quantity from his original estimate of eighty thousand maunds down to thirty-six thousand, supplying from other factories the reductions as they were made; but we are concerned to find that little more than two-thirds of that quantity is likely to be realized in time for the ships of this season. The Resident, however, has lately advised us, that notwithstanding the large advances he has issued, the Company are not likely to incur heavy balances, and that his provision for 1795, which is but a moderate quantity, will be made upon reasonable terms. For our ideas at large upon the Rungpore provision, and for the detail of the circumstances in which it has been involved, we beg leave to refer the Honourable Court to the correspondence with the Resident on the Consultations.

7. With a view to render as moderate as possible the charges of package, which on so low-priced an article as sugar fall very heavy even with the best management, we have discontinued the inner bag of white cloth, except at the factory of Benares, where, for the reasons assigned by the Resident, it is still in use; but before our order could take general effect many inner bags had been provided, and in consequence there is some want of uniformity in the packages of the present season.

8. By the ensuing fleet we shall send home a quantity of khaur or raw sugar, provided in pursuance of the plan contained in our Minute of the 30th January; but we defer stating the points on which we request particular attention may be given to the appearance and quality of this article, till the dispatch of the ships on which it is laden.

9. Mr. Paterson has not yet rendered any sugar, but has found himself under the necessity of applying for a loan of S.Rs. 25,000, which your Honourable Board have been pleased to supply him with at interest, on security approved by yourselves.

10. We defer saying any thing of the sugar investment for 1795, till the arrangements for it be finally settled.

11. The allotment for sugar of the present investment amounts to S.Rs. 19,41,213 6 8, exclusive of commission.

EXTRACT Letter from Board of Trade, 7th February 1795.

Letter from Board of Trade, 7 Feb. 1795,

2. We have consigned to London 291 tons of khaur or raw sugar; we request the Honourable Court will be pleased to call the attention of the refiners to the information we are now about to communicate with respect to the appearance and quality of the different parcels of this article, and if possible to have experiments made thereupon previous to the sale, lest the dark appearance of some of the parcels should prove prejudicial to it, in the opinion of persons who may never have had the opportunity of ascertaining its real properties.*

3. In the information we sent to the Honourable Court in September 1792, respecting the cultivation of sugar-cane in this country, it is stated that there are two sorts of cane generally cultivated in Bengal proper. The one the pooree, a light-coloured cane; the other the cadjoolee, a dark coloured. The former is the same kind of cane as we understand to be cultivated in the West-Indies; the latter, we are told, is not known there. The former is of a softer nature and more succulent, but the juice is less rich. The latter is harder and less juicy, but the juice is sweeter and stronger. The difference is so considerable, as to be evident to the mouth and palate in eating a piece of each sort of cane raw. The natives say that six parts of cadjoolee juice will produce as much goor as seven of pooree, and that the cadjoolee goor will also give a greater quantity of sugar than the pooree, but that it will require more trouble to purify it. It is curious, and to this circumstance we request the particular attention of the trade, that the dark colour of the cane attaches to the lower preparations of the juice, *viz.* to the goor and the khaur, and will even shew itself in a very slight degree in the doobarra or refined

* This khaur was so very coarse and black, as to be pronounced unfit for importation.

refined sugar made therefrom, though both the goor and the khaur are by the natives held to be preferable to the same stages of preparation of the pooree juice.

Letter from Board of Trade, 17 Feb. 1794.

4. It must be observed, that the cadjoolee khaur has the appearance of being less carefully or skilfully separated from the molasses than the pooree. A Wes-tIndian would, on comparing the two, speak of them in this manner. But we understand this to be owing to the more viscous nature of the cadjoolee juice, and to the salts and liquids more intimately blending or rather approximating in their properties, nearing to each other than in the pooree, and not to any want of equal attention and skill.

5. We understand, that West-India canes growing upon wet ground or upon new soils, give a more watery juice, and that the muscovado sugar made therefrom is weaker in grain and darker in appearance. The known qualities of the West-India muscovado of this description may affect the sale of our cadjoolee khaur upon account of its darker colour, and therefore we have been thus particular.

6. In some parts of the country the cadjoolee is generally or only cultivated; in others the pooree: and in many places the two sorts are planted promiscuously in the same field. What circumstances guide the husbandman in planting the one in preference to the other, or in planting both promiscuously, our knowledge or observations of agriculture do not enable us to say, nor can we tell which kind will give the greatest quantity of sugar from an equal quantity of ground, under the same circumstances of soil and agriculture; but we understand, that where the cultivation of the cadjoolee prevails most, the cattle mill is used for expressing the juice, and the hand mill where the pooree is chiefly grown. The difference in the hardness of the canes seems to be the cause of using the different mill.

7. In Rungpore, Beerbhoom, Midnapore, and Jellasore, the cadjoolee cane is generally cultivated; in most parts of Burdwan, the pooree. In some districts under Santipore one kind is cultivated, in other districts the other, and in some both sorts promiscuously.

EXTRACT Letter from Board of Trade, 25th March 1795.

14. The consignments of sugar though procured under the disadvantage of a demand greatly beyond the supply, and of a system of provision which, at least in our opinion and by our experience, is not the best adapted to the state of society, nor to the means of the country, will we hope be found, with some exceptions, preferable to those of last year. The instances of abuse of false package, which we endeavoured to check as soon as we perceived it, we trust will appear less frequent than we fear they then were. Nothing materially new occurs to remark upon the produce sent this season of last year's canes, except that we have the most cause for dissatisfaction in the qualities of the Radnagore consignments. We have recently called upon the Resident, both for inquiry into the causes of the defaults we have observed to him, and for his strenuous vigilance and attention to guard against them in future.

15. From Rungpore we have been much disappointed: the chief cause was a combination to maintain the excessive price paid in 1793, and an endeavour of the Resident to counteract it. Though we have no doubt of the steps he took being well meant, yet we do not think they were judicious. The whole correspondence is of considerable length; and we beg leave to refer to our proceedings for full information upon the subject. A failure of water in the Rungpore rivers so early as November, is assigned as a more recent cause of disappointment. We have the pleasureto observe, that the small quantities which have yet reached us from that factory are remarkably good as to their quality.

16. We request that the Honourable Court will be pleased to call the attention of the refiners to the cargo of this ship (Dart). It is of the produce of the crop just closing, and will therefore come into the market as soon after the harvest, or nearly so, as West-India sugar. The consignments hitherto made have been one season behind the West-India, and this must generally be the case. The sugar now sent is from the neighbouring countries of Nuddea and Burdwan; and it is extremely good of its kind, and we hope will shew

that

Letter from Board of Trade, 17 Feb. 1794.

that the Bengal process of manufacture; though inferior to the West-India, is not very distant in essential points, and that improvements may be effected therein, without having recourse to such expensive works as are used in the West-Indies. The dowloa is khaur more freed from molasses by weeding, in the same manner the West-India muscovado is by claying.

17. We send a copy of what we have written under date the 7th February, for the information of the refiners, respecting the khaur produced from the pooree or light-coloured, and from the cadjoolee or dark-coloured cane.

18. We send for information a box containing four small musters of muscovado and two of clayed sugars, given us by Mr. Lambert, as prepared after the West-India process at his plantations at Achipore and Fort Gloucester. They will shew that the difference between the sugars of this country and of the West-Indies proceeds from the different modes of treatment, though the ground at Achipore is considered by the natives, as we understand, to be a soil not very favourable to the cane, and the soil of Fort Gloucester is deemed by them very indifferent. Mr. Lambert has in contemplation to offer us a supply of both muscovado and clayed sugar from his plantations, but has not yet made any proposal.

LETTER from the Commercial Resident at Benares to the Board of Trade, 8th November 1795.

From the Commercial Resident at Benares.

Gentlemen:—Enclosed I have the pleasure to send you an Account particulars of sugars and shucker manufactured for the Company.

I am, &c.

Ghazeepore, 8 Nov. 1795. J. L. AURIOL, Resident.

Cheenee made from Shucker.

Maunds.	Seers.		Rs.	A.	P.	Rs.	A.	P
3,258	22½	shucker at 4 4 per maund	13,848	14	3			
257	35	of earth left in straining.....						
3,000	27½							
1,579	27½	molasses sold at 11 annas per maund	1,086	0	5			
1,421	0	maunds of chenee				12,762	13	10
		Charges Manufacture.						
		6,893 maunds firewood of 9¼ maunds per rupee	745	3	0			
		6 hulwys for 4 months 24 days at 5 per month	144	0	0			
		4 hulwys for 4 months 5 days, at 4 per month	66	10	8			
		23 hulwys for 5 months 1 day, at 3 per month	347	4	9			
		1 sircar for 6 months, at 6 per month.....	36	0	0			
		2 peons for 6 months 10 days, at 3 per month	38	0	0			
		Milk and grass for clarifying.....	92	8	0			
		5 maunds chenee to promote granulation, at 8 rupees per maund ...	40	0	0			
		Castor nutts	10	8	0			
		Cloth and gunny for straining	42	0	0			
		Earthen pots, wooden ladles, baskets, mats, &c. &c.	37	13	0			
		Expense of vats to receive molasses	88	12	0			
						1,688	11	5
		Brokerage on Bs.S.Rs. 13,848 14 3				14,451	9	3
		at 1 per cent				138	7	9
1,421	0	Maunds of ekbarrah, shucker, cheenee, cost Bs.S.Rs.....				14,590	1	0
		1st sort, 844 maunds, at 11 rupees...	9,284	0	0			
		2d ditto, 520 do. at 9 6 annas...	4,875	0	0			
		3d ditto, 57 do. at 7 9 do. ...	431	1	0			
		Bs.S.Rs	14,590	1	0			

Account of Charges for making 23 maunds of the 1st, and 10½ maunds of the 2d Sort Shucker.

4¾	begahs sugar-canes .....Bs.S.Rs.	108	0	0
831	maunds fire-wood, at 8 maunds per rupee.....	103	14	0
494	coolies for cutting and cleaning canes	34	15	7
455	ditto attended the mills, mill and cart bullocks ...	40	15	2
1	hulwy for 53 days	8	10	6
	Expense of mill and cart bullocks for 40 days	48	0	0
		344	7	3
	Deduct for sale of molasses, 41 maunds 2½ seer, at 1 rupee per maund	41	1	0
33½	maunds of shucker cost .....Bs.S.Rs.	303	6	3

Commercial Agent at Benares, 8 Nov. 1795.

Or on an average	9	0	11	per maund of 96 sicca-weight.
Equal to Calcutta S.Rs.	6	3	10	per factory maund.
Transportation and commission,	0	12	2	
	7	0	0	

FORT SAINT GEORGE PAPERS.

LETTER from the Deputy Resident at Monsoorcotah to the Board of Trade, at Fort St. George, 11th February 1796.

Gentlemen:—I do myself the honour to transmit a contract negociated with Brazabaladoss for sugar, the produce of the Soureda zemindarry, to the amount of 2,000 rupees. I have, &c.

Letter from the Deputy Resident at Monsoorcotah, 11 Feb. 1796.

Monsoorcotah, 11th Feb. 1796. A. MACKENZIE, Deputy Resident.

Monsoorcotah, 11th February 1796.—Contract agreement given to Alex. Mackenzie, Esq., Deputy Commercial Resident at Ganjam, by Brazabaladoss. I agree to deliver 2,000 rupees worth of sugar, the produce of Soureda, before the 31st December next at the under-mentioned prices.

That is, for the maund of 25lbs. avoirdupois.

1st sort.....	3	rupees.
2d ditto	2½	do.
3d ditto	2	do.

According to these I will deliver it at Ganjam for the Company,

BRAZABALADOSS.

LETTER from the Governor in Council of Fort St. George, 6th March 1796.

Gentlemen:—In regard to the sugar which has been provided at Ganjam and Masulipatam, we enclose extract of a letter from the Honourable Court of Directors, dated 3d July last, which you will observe is so favourable to the quality of the manufacture, that we think it right the Resident should make known the permission hereby granted him of receiving any quantity that may be tendered at the price mentioned by the Honourable Company, but he must be cautioned against the debasement of quality.

Letter from the Governor-in-Council of Fort St. George, 6 March 1796, to the Board of Trade.

We have given particular instructions to the Board of Revenue, that every encouragement should be afforded to the cultivation of the sugar-cane, and we doubt not that by a cordial co-operation of the Company's Revenue and Commercial servants, the manufacture of sugar will be made an object as well of considerable profit to the Company, as of advantage to the districts in which it is produced.

HOBART,
ALURED CLERK,
EDWARD SAUNDERS,
E. W. FALLOWFIELD.

Fort St. George, 6th March 1796.

EXTRACT Letter from the Collector of Vizagapatam, 21st April 1797.

I come now to the more material mention of the other branch of local and important manufacture attached to the properties of the soil in these fertile and

Letter from the Collector at Vizagapatam, 21 April 1797.

Letter from the Collector of Vizagapata'n, 21 April 1797.

and congenial districts; by which I understand the lucrative manufacture of sugar.

The manufacture of this valuable article of commerce has obtained no progress as yet (within the capacity of the natives of these districts) beyond the first process of converting the juice of cane into jaggery. The gardens of cane are cultivated to some extent, and the proprietors, who pay a considerable quit-rent to Government, derive a profit from the rude and debased stage of the manufacture to which they have as yet arrived, sufficiently advantageous to preclude the necessity of exerting their genius beyond it, or of deriving any superior result from their labours. The advanced price at which they are enabled to dispose of their jaggery (though remarkably impure and imperfect in its quality) yielding them a profit of from 30 to 50 per cent., after every contingent charge has been deducted from the undertaking, is at once a convincing proof of the justness of this observation.

Anxious to bring forward the cultivation of this article, to the same state of improvement which it is known to have reached in the Ganjam district; sensible where the cane appeared to shoot forth into so healthy, vigorous, and luxuriant a plant, that it required only to introduce the means, in order to render the manufacture equally productive here as in any part of India; I felt embarrassed only by the difficulty of establishing this means, which from the total incompetency of the proprietors of the gardens, must consist in a skill and management, to be looked for altogether from a foreign quarter.

In this state of suspense and uncertainty, I entered into investigation and inquiries on the subject, which afforded me, however, little encouragement to proceed. I discovered that an attempt had been made in the preceding year, by persons sent hither from Ganjam conversant in the art of making sugar; the result of which experiment was said to be so unpromising (but I now find, very fallaciously said to be so), that all further attempt had been prudently relinquished. It was asserted that five maunds and a half of jaggery was requisite to the boiling and composition of scarely one maund of common sugar: superadded to this considerable waste and consequent expense, it was necessary to estimate the charges and contingent expenditures of workmen, drawn from a distance; and I felt confident, from such a view of the matter, that the only means of establishing the manufacture was by encouraging individuals (and particularly Europeans) to engage under contract for the Company, if but for a short and limited period.

About this time instructions from the Board of Revenue were received, on the subject of the manufacture; to which I was enabled readily to reply. Grounding this reply on the sentiments and information which I have now had the honour to state to your Lordship, I particularly noticed that "although the trials which had been formerly made had failed to answer expectation," (of the manufacture being worthy encouragement) "if undertaken by native management, the issue might be attended by very different success, if established under proper regulation."

Shortly after which, the Board having authorized "that encouragement should be given to individuals who might wish to engage in the manufacture for themselves," the proposals of Mr. Robert Campbell (from the defective information under which I laboured) appeared to me highly advantageous to the Company, and exactly to correspond with the intentions and expectations of the Board of Revenue.

The trial made through the medium of native manufacturers was represented to have shewn, that five maunds of jaggery were required to form only one maund of sugar; and the average price of jaggery being, at the lowest, one rupee per maund, the price of one maund of sugar would consequently be five rupees. Now the offer of Mr. Campbell was to deliver the sugar at the rate of one star pagoda, or three rupees and eight annas, per maund, every contingent charge previous to its delivery being at his own risk and loss.

These proposals of Mr. Campbell were neither accepted nor rejected, for a reply has not since been received regarding them; and I cannot but esteem the uncertainty in which this matter has been allowed to remain, as a circumstance peculiarly fortunate and interesting.

It

Letter from Collector at Vizagapatam, 21 April 1797.

It is this circumstance, my Lord, that has enabled me to collect those facts, on which I presume to draw your Lordship's attention to the subject of this address.

With a view to renew ("under proper regulation," as I have had the honour to notice) those trials which had been unsatisfactorily engaged in during the last year, and persuaded from the protracted period under which they had lain over that the proposals of Mr. Campbell had finally not been approved, I procured some natives to proceed hither from Ganjam about four months ago: the result of whose operations, as they have been conducted and directed within my own personal observation, and under the strictest scrutiny I was capable of bestowing, can with confidence and satisfaction be offered as clear and authentic grounds of information to decide upon.

By a statement of the actual expenses attending the manufacture, which I have the honour to enclose, it appears that, to make one hundred maunds of sugar, it will require 266 maunds 5 viss $1\frac{2}{3}$ seers of crude jaggery, which, at 1 rupee per maund, occasions the whole expense of this first charge of the sugar to be 266 rupees 10 annas 8 pice.

It appears that the expenses may be stated at twenty-five per cent., to be incurred in the purchase of the various concomitant articles necessary in all the gradations of the manufacturing process for making one hundred maunds of sugar. The expense of workmen has also been included; but this expense is arbitrary and cannot be applied to the calculation of any considerable quantities of the manufacture, should such be undertaken. Three workmen are competent to the duty of making three hundred maunds of sugar every month, and five workmen (which is but a trifling difference in the expense) are capable of making five thousand maunds of sugar in the season; and that quantity of sugar, in the present state of the gardens in these districts, may readily be procured if required.

But the deductions to be made from the expense of manufacture, and from the excessive price at which the jaggery sells at present in these parts, is in every respect a solid and important consideration.

The quit rent of the gardens may be called, on an average, twenty-five rupees for every vissum of ground, a measurement nearly equivalent to an acre, and capable of producing on a medium of 125 maunds of jaggery, which brings the relative charge on a maund of jaggery exactly to one-fifth of a rupee as a deduction from its original cost, if the Company should engage in the manufacture on their own account.

The sale of molasses, of which there remains a superfluity of about one and a quarter maunds upon the manufacture of every one maund of sugar, is another substantial and positive drawback from the primary charges of the jaggery: this has been calculated considerably below its probable valuation.

Thus to reduce the expenses to the compass of the manufacture of one maund of sugar only, your Lordship will perceive that it falls short of $1\frac{1}{2}$ rupees per maund; that is to say,

	Rs.	As.	P.
One maund of sugar, its original cost in jaggery	2	10	8
Add the cost of workmen and articles of necessary disbursement for one maund of sugar	0	4	0
Total gross amount of the cost of one maund of sugar	2	14	8
Deduct:—The sale of $1\frac{1}{4}$ maund of jaggery, or molasses, remaining from the manufacture of 1 maund of sugar, at 12 annas per maund	0	15	0
Quit rent of the gardens, calculated at $\frac{1}{5}$ of a rupee per maund of jaggery on 2 maunds 5 viss $1\frac{2}{3}$ seers required to make 1 maund of sugar	0	8	$6\frac{3}{5}$
	1	7	$6\frac{3}{5}$
Total nett amount cost of 1 maund of sugar.....	1	7	$1\frac{2}{5}$

I shall

Letter from Collector at Vizagapatam, 21 April 1797.

I shall presume to notice on the foregoing statement, that the expense attending workmen, and the charge of materials required for the manufacture in all its stages, will progressively diminish as the quantity to be manufactured increases; because the pay of workmen is the same throughout, and the materials, as well as the method (not to be at once attained, nor perfectly well described, in an experimental essay like the present) will doubtless become modulated as the undertaking ripens into maturity.

It will also occur to your Lordship, that another source of diminution, in the present state of the manufacture, will arise in time from the reduced price of the jaggery. There can be no cause assigned for the excessive rate at which it sells here at present (the lowest being one rupee per maund), excepting the natural one, of its being the only composition hitherto produced from the cane, so easily procurable and so generally applied to the domestic uses of the inhabitants; consequently, when the superior produce of the cane in sugar becomes established (for which the jaggery is but a very indifferent substitute) it will proportionally depreciate the value hitherto attached to the jaggery. By this depreciation, it follows at the same time, that an object of much greater importance will be attained: I mean that of reducing the price of the sugar to be manufactured for the Company here as nearly as possible to a level with the standard price of the sugars manufactured at Ganjam.

On the whole, I can without hesitation pronounce, that sugars can undoubtedly be manufactured in these districts at the rate of $1\frac{3}{4}$ rupees per maund of 25lbs., every charge included; which your Lordship will please to observe is a rate of manufacture that exceeds the calculation already offered.

As to the sugar itself, I profess myself not competent to declare any opinion, either of its comparative properties when contrasted with that produced at Ganjam, or of its intrinsic virtues in regard to the refining process in Europe, or the general merchantable state it may possess to render it desirable for exportation. The workmen employed on the present occasion scruple not to say that the cultivation of the cane is somewhat different here from the cultivation at Ganjam, and produces more abundantly at the latter place. This observation may probably be very just; or it may have been capricious. It is very certain, however, that sugar has been produced by the natives (and I believe by the proprietors of the gardens) for ages, at Ganjam; in these parts the progress of the manufacture can scarcely yet be said to have stepped beyond its earliest infancy.

The musters of the sugar obtained from the present trial, and chiefly the produce of the Ankapilly and Cassimcotah pergunnahs, have been packed in a small box contrived for that purpose; which proceeding with this letter, I presume to offer for your Lordship's acceptance and inspection, as the first-fruits of these districts, in the production of an article of commerce so truly meriting your Lordship's patronage.

I have, &c.

WILLIAM BROWN, Collector.

STATEMENT of EXPENSES attending the manufacture of one hundred maunds of brown Sugar, the produce of the Ankapilly and Cassimcotah pergunnahs, from a trial made under the immediate superintendance and inspection of the Collector.

	Rs.	As.	P.
To the purchase of 266 maunds 5 viss $1\frac{3}{4}$ seers of jaggry at 1 rupee per maund of 25lbs. each maund	266	10	8
The expense of workmen for making the sugar, also fire-wood, chunam, milk, pots, &c. every charge included at 25 per cent. on 100 maunds of sugar	25	0	0
Total prime charges on the manufacture of 100 maunds of sugar	291	10	8

(Continued.)

			Letter from Collector at Vizagapatam, 21st April 1797.
Brought forward.....Rs.		291 10 8	
Deductions to be made:			
To the quit-rent of gardens at the average rate of 25 rupees for every 125 maunds of jaggry; on 266 maunds 5 viss 1⅓ seers of jaggry required for 100 maunds of sugar	53 7 0		
The sale of the superfluous jaggry (or molasses), after the sugar has been extracted, say 10 viss to each maund of sugar, at 12 annas per maund on 266 maunds 5 viss 1⅓ seers of jaggry.....	93 12 0		
		147 3 0	
Total nett cost on the manufacture of 100 maunds of sugar...Rs.		144 7 8	

Referred to the Board of Revenue for their consideration.

LETTER from the Board of Revenue, at Fort St. George, to the Governor in Council, 6th July 1797.

Fort St. George Revenue Board, 16th July 1797.

My Lord:—We have the honour to lay before your Lordship, extract from our proceeding upon Mr. Brown's address to Government, on the subject of sugar, and upon the present state of the sugar manufacture on the Coast. If the report should appear defective, your Lordship will, we trust, impute it to the true cause, the want of the means of procuring more particular information in regard to a branch of commerce hitherto little attended to on this Coast; and of which we ourselves have had no opportunity of acquiring any knowledge.

We have, &c.

CHARLES N. WHITE,
THOMAS COCKBURNE,
WILLIAM HARINGTON.

Fort St. George,
16th July 1797.

EXTRACT from the Proceedings of the Madras Board of Revenue, 29th June 1797.

Minute of Fort St. George Revenue Board, 29th June 1797.

The Board think it proper to record upon Mr. Brown's address to Government on the subject of saltpetre and sugar, that at the period they received his letter therein alluded to, and the proposals from Mr. Campbell for manufacturing sugar, they expected information from other quarters, to enable them to make a general report on the present state of the sugar cultivation; and as the proposals appeared to them inadmissible, not only on account of the very high price demanded, but the principle upon which the Contractor meant to proceed, the Board did not think it necessary to submit them to Government. Their opinion of the terms being unfavourable to the public, is now fully confirmed by the Collector himself, who candidly acknowledges that his recommendation of them, as highly advantageous, proceeded from the defective information under which he then laboured; they were as follows.

Mr. Campbell required that the Company should take his sugars, to such an extent as he could manufacture them, at the rate of twenty pagodas per candy, to be delivered on the spot, exclusive of packing, freight, and other charges, which were to be defrayed by the Collector. He further required that the inhabitants, cultivators of the cane, should be compelled to sell to him, exclusively, the produce of their present gardens, and all others they might in future cultivate for a period of six years; the canes to be brought by the inhabitants and delivered at his works, at such fixed price as the Collector might think reasonable; he also required an advance from the Company of Pagodas 10,000, to aid his endeavours, for the repayment of which he was to give security, and he further offered to bind himself to deliver rum, if required by Government, at a reasonable rate, not exceeding the usual price of Batavia arrack; but in case the canes could not be procured from the cultivators at such a rate as to afford an adequate remuneration for his trouble, the contractor was to be at liberty to relinquish the scheme.

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The result of Mr. Brown's experiments, as reported in the letter before the Board, appears very satisfactory, and affords a prospect of a very considerable supply of sugar, not less than 55 tons, from the gardens now under cultivation, at a reasonable rate.

By the statement which accompanied his report, it appears that, deducting the value of the jaggery or refuse, and the quit rent for the gardens, he calculates the price of the sugar at Pagodas 8 11 41 per candy, which is per cwt. Pagodas 1 35 67, or 14*s.* 9¾*d.*, a very favourable price, about half what the first sort of Ganjam sugar costs, *viz.* Pagodas 3 35 22 or £1. 10*s.* 8½*d.* The Board do not, however, understand upon what principle the Collector deducts the quit rent on the gardens, unless he means that the Company shall take in waste ground, and cultivate on their own account by hired labourers; they would otherwise sink so much revenue. Admitting, however, no deduction on this account, still the price would be favourable, *viz.* Pagodas 11 13 74½ per candy, or Pagodas 2 22 49, £1. 0*s.* 3½*d.* per cwt.; and even supposing no deduction made on account of the sale of the jaggery, still the price would be below that of Ganjam, *viz.* Pagodas 16 20 per candy, or Pagodas 3 31 20, £1. 9*s.* 11¼*d.* per cwt. Mr. Brown observes, he can upon the whole pronounce that sugar may be manufactured in his districts at the rate of 1¾ rupee per maund of 25 lbs., every charge included, equal to 10 pagodas per candy, or Pagodas 2 10 6, or 17*s.* 11*d.* per cwt. The Board, therefore, have no hesitation in recommending to Government, that Mr. Brown be allowed to adopt such measures as may to him appear best calculated to introduce an extended cultivation of the cane, and manufacture of sugar, into his districts.

In February 1796, the Board addressed Government in consequence of the order of the Court of Directors, authorizing the purchase of sugar of a good quality, at a price not materially exceeding that stated by Dr. Roxburgh. Upon reference to the Doctor's address on this subject, it appeared he stated the price of a candy on the spot to be from 16 to 24 rupees, according to the demand; taking it at the highest, 24 rupees, it would be Pagodas 6 38 45, or per cwt. 12*s.* 4¾*d.* This price, in the past and present state of sugar cultivation on the Coast, must be deemed very low, and in consideration of the difference of circumstances in the Circars since the period alluded to by the Doctor, the Board observed to Government that 11 pagodas per candy, or 19*s.* 8¼*d.* per cwt., would scarcely now be thought adequate encouragement.

Agreed, To take the present opportunity of stating the result of the call on the Collectors, for information as to the merchantable price of sugar in their several districts, and the quantity therein procurable.

The Collector of Ganjam reported, that the price of sugar of the 1st sort was per candy of 500 lbs. Pagodas 17 6, or .....per cwt. £1 10 8¼

2d Sort ... do.	14	12	.....	1	5	7
3d Sort ... do.	11	18	.....	1	0	5¼

He stated that contracts were made by the Commercial Resident for the Company, amounting to upwards of 50,000 rupees, and that in the event of advances being made to the inhabitants, and encouragement being held out to them (the extent of advances or nature of the encouragement not stated), he conceived it might be extended to a lack. He did not, however, give the grounds on which he founded his opinion, nor any information as to the possibility of reducing the present price, which must be considered high, when the Board understand Bengal, China, Manilla, Batavia, and even Ganjam sugars have been purchased in Madras at rates not much higher, and sometimes lower; indeed, unless they can be reduced, they apprehend this sugar will not answer for the Europe market in time of peace.

The report transmitted by the Honourable Court of Directors states the average rate sale of Ganjam sugar, in April 1796, to have been 75*s.* 6*d.* per cwt., which yielded a profit, after allowing for all charges, of £13. 18*s.* 1¾*d.* per cent.; but by the returns of March 1797, recently received, sugar had fallen to 65*s.* 0½*d.* per cwt.

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The Board indeed conclude, unless the freight can be lowered, that the price proposed by them, *viz.* 11 pagodas, is the highest the trade will bear in time of peace; the cost to the Company in England, when brought to sale, would then be as follows:

Prime cost of one hundred-weight of sugar at 11 pagodas per candy	£0	19	8½
India charges on that sent home amounted to 11s. 7d. per cwt, say they can be reduced to	0	8	0
Freight	1	4	5
Charges merchandize in England	0	3	9
Cost to the Company when brought to sale, exclusive of interest of money, insurance or wastage	£2	15	10½

Fifty-five shillings and tenpence halfpenny the Board supposes to be rather above than below the average peace price. That the prime cost may in time be reduced even below the rate proposed they have little doubt, especially when the benefit arising from the culture of the cane and a sure market is felt, as well as from an increased cultivation and improvement in the manufacture.

The Board are not aware any encouragement, in addition to a certain market, is likely to prove more effectual, than declaring that all grounds appropriated to the culture of sugar-cane shall be assessed no higher than if cultivated with grain. This, it is true, would occasion a loss to the revenue, but one ascertained and small, greatly overbalanced by the increased commerce thereby introduced: it could only be the difference of assessment on the present gardens, since few additional ones will in all probability be made, as they are now taxed, unless by giving a proportionate higher price for sugar; but to ascertain the actual cost of that article, the amount of such remission may be transferred to the commercial department, and be added as a charge on the provision of each year. As, however, sugar is comparatively an expensive cultivation, requiring a greater capital than the ryotts in general possess, they will no doubt in the first instance require the aid of Government to stimulate their exertions: but this will only put the public to the inconvenience of a temporary advance of cash.

It may not be considered superflous to notice here, that the average first cost of sugar in the Bengal provinces is estimated at 4*s.* 9¼*d.* per hundred-weight, and that it has been purchased and shipped at Calcutta for Europe by individuals, after paying duties, charges, agency, packing, and the profits of several intermediate merchants, at 19*s.* 6*d.* per hundred-weight, but it is supposed to be inferior in quality to the Ganjam sugar.

No sugar has hitherto been manufactured in the first division of the Vizagapatam district: but from the report of the Collector, and the experiments made by him, the Board have no doubt the soil and situation of many parts of the Chicacole Havelly, in particular, are well adapted to the cultivation of the cane, as are no doubt many in the second division.

The Collector in the first division of the Masulipatam district reported that the price of sugar in his division was 2½ maunds of 23⅝ lbs. each per Madras pagoda, equal to Star Pagodas 9 13 41 per candy of 500 lbs.; but that 300 pagodas' worth could not be procured therein. The sugar-cane has been long cultivated in the Peddapore and Pettapore zemindarries. He stated that 110 vissum of land (a garden vissum is equal to 1 acre 2 roods 24 perches) were cultivated in the former in fusly 1204, and that there was ten times that quantity of soil in the zemindarry fit for its culture. Of 300 vissum in Pettapore, 56 were cultivated; but that the cane was small, the juice poor, and always converted into jaggery, unless when particular orders are given and advances made for sugar, which latter is of a very inferior quality. He, however, observed that the introduction of the Ganjam cane and sugar-boilers, advances for the cultivation, and a certain market for the produce, might encourage the extension

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sion of its culture, but that the present reduced population, and consequent high price of labour, were circumstances for the Board's consideration.

It was in this division that Dr. Roxburgh made his experiments; and Captain Denton, who is in charge of the Corcondah district, has subsequently given much attention to, and favoured the Board with an intelligent report on the subject. Agreed, to lay a copy of this report, the result of an experiment made under every disadvantage, before Government. The musters which accompanied it appeared to the Board of superior quality, but no judgment can be formed from thence of the price at which it can be procured, the expense of the trial having been enhanced by the exorbitant demand of the owner of the ground, who required no less than M. Pagodas 90 per vissum, and by the advanced rate at which every requisite article was procured: there seems, however, every reason to believe, from what is stated, that under able superintendance, and with encouragement the Board have pointed out, very favourable agreements for the cane, or rather the juice, could be made with the inhabitants. It appears by Captains Denton's inquiries that the plantations now cultivated are capable of producing about 445 tons of sugar, exclusive of the jaggery, which might still in a great measure answer the general consumption of the country. The Board need scarcely remark, that when the object is sufficiently extended to induce the making of rum, the price of the sugar will be thereby lessened, and the considerable sum which is now sent out of the country for that article saved.

The sugar-cane is cultivated in small quantities for the use of the inhabitants in the other divisions of the Circars, but except in a few villages in the Muglatore Havelly, no jaggery is manufactured from it.

In the Jaghire the cane is cultivated chiefly in the Peddapollam pergunnah. The Collector reported that no more than fifty cawnies are occupied for this purpose, that the cane is of an inferior quality, and the price of the jaggery made from it 15 viss per pagoda, equal to 10 pagodas 28 fas. per candy. He observed that a certain market, he imagined, would be the best encouragement to hold out for the extension of the culture; but which, if considerable, would materially affect the grain cultivation, as the same labour that is required for 20 cawnies of the latter, would be barely sufficient for one of the former, and that the inhabitants cannot procure labourers for both; he, however, suggested whether it would not be advisable to form a plantation on the Company's account, in some eligible spot of the Jaghire, by which the first point to be attended to would more easily be effected, *viz.* the introduction of a good species of cane; and the best mode of manufacturing sugar, in which the inhabitants of the Jaghire are but little versed, could also be taught them by sending for persons who understand it from Ganjam or Bengal. The Collector pointed out the ruined fort of Carangooly, containing about 30 cawnies, as eligible in point of soil and situation. It would, he observed, require about 1,000 pagodas to clear and level it: but this would be more than compensated by the convenience of a stone tank, and numerous wells, and a choultry and casemates, which would answer for boiling and storing the sugar; that he would himself be able to give his attention to the plantation, and if the essay proved successful the culture could be extended at will, in the same kind of soil at the outside of the fort, as well as in Madranticum, and thereafter such encouragement given to the inhabitants as would induce them to cultivate and deliver canes of a good quality.

The Board, considering the introduction of manufactures into the Jaghire of infinite importance to the revenue and prosperity of the country, and conceiving it a good opportunity for ascertaining how far the Company could with advantage cultivate plantations on their own account, a point desirable to be known, agreed to recommend the Collector's proposal to the consideration of Government.

The only situation where the culture of the sugar-cane has been particularly attended to, is in the countries under Lieutenant-Colonel Read, who has made experiments to ascertain the quality of the produce in the Baramahl. The sample sent appears to be good, but the expense of land-carriage to the coast

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coast, must be so heavy as to prevent its becoming an advantageous article of export. In the southern division, under Captain M'Cleod, the cane appears to have been long cultivated, and even now to a very considerable extent: but the sugar produced, from a want of knowledge in the mode of manufacture, is of a very coarse quality.

Captain M'Cleod stated that 64,000 tolums of sugar are now manufactured in his division, equal to about 400 tons: the average price is $\frac{3}{4}$ rupee per tolum, about $7\frac{1}{2}$ pagodas per candy of 500lbs. The only measures he thinks necessary to extend its culture, are to fix a price for its being received from the ryots, and to aid them with advances of cash to carry on the cultivation. The objection to its becoming an object of export, the distant land carriage, he observed, might be removed by devising a mode of transporting it by water, on the Cauvery, to Porto Novo or Karical, and this he thought not impracticable. The Board, in consequence, directed the Superintendent, Lieutenant-Colonel Read, to make an experiment, the result of which he has not yet made known; but they understand it has been successful, so far as ascertaining that boats can proceed to the coast. The Board must, however, wait the report of the Superintendent, which he lately promised speedily to forward, before a judgment can be formed of the practicability of obtaining sugar from that quarter, at such a price as to become an object for the Europe market.

Agreed, That extract from the foregoing proceedings be submitted to Government.

OBSERVATIONS on the CULTURE and MANUFACTURE of SUGAR in the Masulipatam Circar; by Mr. Wm. Brown, the Collector of Vizagapatam.

Further Report of Mr. Brown, Collector of Vizagapatam.

To enter into an elaborate inquiry when the introduction of sugar first took place into this country, would be not only foreign to the purpose, but perhaps unsatisfactory in respect to success, for the sources to which we could recur for information are in themselves extremely defective, and little to be relied on.

Of its history, however, a popular tradition obtains amongst the natives, that in very ancient times, a vessel belonging to their country chanced by accident to leave one of her crew under a desperate fit of sickness, at a desert island at a considerable distance in the eastern seas, and that returning by the same route, curiosity prompted them to inquire after the fate of their companion, when to their utter astonishment the man presented himself to their view, completely recovered from his sickness, and even in a state of more than common health. With anxiety they inquired for the physic he had so successfully applied, and were conducted by him to the sugar-cane, on which he acquainted them he had solely subsisted from the time of their departure. Attracted by such powerful recommendation, every care and attention was bestowed, we may suppose, to convey such an invaluable acquisition to their own lands, where the soil and climate have mutally since contributed to its present prosperity.

But how far such a whimsical tale is deserving of attention I shall not take upon myself to determine, having principally in my view, an aim to support the liberal endeavours of Doctor Roxburgh to obtain for the cultivation of this article in the Circars that encouragement, to which on many accounts it appears to be entitled: and to be in some degree qualified for this province, has been the motive for my engaging an acre and a half of cane-ground from the cultivators, and hiring proper persons to manage the refinement, with moreover an assiduous attention to every particular that might lead to a correct judgment.

The points that have been deemed of the most material consequence to this end, were to establish, from experiment, the quantity of sugar that an acre or vissum of ground was capable of yielding, and then an inquiry into the number of vissums that are actually cultivated, with some observations on the possibility of improving and augmenting the present manufacture.

The vissum of ground, by some calculations that I have seen, has been stated to be nearly two acres; an error which the incompetency of the natives in land-measuring has possibly occasioned, or the want of discrimination of there being two distinct standards by which grounds are measured,

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the one distinguished by the name of tauntla or garden vissum, and particularly applicable to such; and the other chawk vissum, used for the grounds that are under general cultivation.

For the tauntla vissum they prepare a rope of thirty-two cubits in length, six and a quarter of which constitute the long side, and five of the same length are taken for the other; so that a vissum of ground should in effect be a parallellogram or oblong square of 200 cubits by 160, or 300 feet by 240, and consequently 72,000 square feet, or one acre two roods twenty-five perches.

The other is a square of 112,500 feet, and consequently contains two acres two roods, thirteen perches; but the first is the one on which our computations have been made.

From this vissum of ground were obtained 85,140 canes of different sizes, but mostly small; from these were expressed 1,428 pots of juice, containing twenty-nine pounds each, and these were converted into 300 maunds of jaggery, a proportion of almost five pots and three-quarters of juice to one of jaggery. The sugar and residue produced from these 300 maunds were in the following proportions:—

	chs.	fs.							
Sugar	92	15	cwt.	qrs.	lbs.		or	cwts.	per vissum.
Inferior jaggery ...	76	12	or 19	3	11	per acre.		12	
Syrup	46	3							
	215	6							
Loss in boiling ...	84	18							
Maunds	300	0							

The sugar here alluded to corresponded with C No 3, of the musters dispatched to Madras; and in respect to the quality of the garden, there was no particular reason to imagine any superiority to the plantations around it.

Any direct attempt that might lead to the discovery of the actual quantity of ground under cultivation, or its intrinsic value, is viewed by the natives, and in particular by the zemindars, with considerable jealousy; to ascertain, therefore, with exactness, the number of vissums that have been appropriated to the cultivation of this article, has been a matter of some difficulty, and not followed by a precision that was perfectly satisfactory. This circumstance being premised, I shall venture to state them in the manner I have been able to obtain the account, professing at the same time my full belief that they rather exceed than fall short of the computation.

The sugar-cane is cultivated at twenty-six villages of the Kimmore purgunnah of the Peddapore zemindarry, and generally in the proportion of two hundred and fifty-three vissums. Perhaps no situation, and but few soils, are so happily adapted to the growth of the cane as this enchanting purgunnah, which is a beautiful valley, that extends itself from near Opparah at the east end, to the village of Elyseram, on the west, bounded on the north by the general range of mountains, and on the south by the high grounds of Peddapore and the adjacent country.

The river of Elyseram on its way to the sea gives wonderful fertility to every part of it, and being an essential requisite to sugar cultivations, they are found thickly interspersed with gardens of chillies, turmeric, and fields of paddy, in a most remarkable and romantic manner.

At the eastern extremity lies the Palenadah purgunnah, partaking of the same advantages, and is so connected with the other, as frequently to be productive of disagreement between the ryotts of the respective countries for an equitable distribution of water, which is easily raised by dams in a sufficient degree to overflow the lands that are prepared for the purpose.

This purgunnah has usually employed forty vissums in the cultivation of sugar, and both, no doubt, might be made to produce in a double proportion, were the cultivators to depend upon wells instead of the river, as water is every where obtainable at the depth of five feet from the surface of the earth.

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The nearest plantations to these (and, as far as I can learn, the only ones), are at Tattepauk and Asunta, forty miles distant on the delta of the Godavery. Tattepauk composes a part of the Peddapore zemindarry, and has fourteen villages for the cultivation of sugar cane, nine of which avail themselves of the water of the Godavery, and the other five make use of wells only.

On general years altogether, Tattepauk may be reckoned to cultivate eighty-four vissums. Asunta, though nearly adjoining to it, belongs to the Mugletore country, and has eleven villages that produce the sugar-cane, five of which are watered from the Godavery, and the remaining six by wells; but picotas for raising it are used in both cases: this latter generally cultivates about seventy vissums. These, as far as I can learn, are the only countries in the Masulipatam circar that furnish the sugar, at least in any quantity; the amount thereof then will be:

Kimmore purgunnah,	253 vissums.
Polanaud, ...	40
Tattepauk	84
Asunta	76
Total, vissums	447

Having already stated the produce of one vissum to be, by experience, 19 3 11, we may, on the same data, admitting 447 vissums for the quantity of ground cultivated, calculate the whole at 445 tons of sugar, besides the residue in jaggery and syrup.

With the certainty that the country is then capable of producing such a large quantity of sugar, it becomes a matter of curiosity, that not a hundred pounds of this article should be procurable: but the surprise ceases, when we recollect that the market has been solely confined to the natives; and that in the state of jaggery it is much easier preserved, more convenient for carriage, and equally well adapted when to be brought into use as a confection.

This circumstance will account for the ignorance of the natives of any tolerable mode of refinement; and also that, though the country might be able to furnish a much larger portion of sugar, that as it might exceed the expected demand they very properly abstained from a measure that would affect the market. At the same time it affords the well grounded hope, that were a sale insured to them, the plantations would be extended to their utmost capacity. At present the indifferent quality of the jaggery renders it fit only for the consumption of the natives, and the want of skill to convert it into tolerable sugar, precludes it from any probability of becoming an article of import into Europe.

Wherefore, in the supposition that it must undergo an improvement, I shall humbly propose that the Ganjam mode of refinement may be generally adopted.

While this valuable branch of commerce suffers under these disadvantages, there appear many very good reasons, I think, that it may be recovered from its present insignificancy; and that it is not impossible that it should by encouragement become productive of advantage even to the Company in their commercial capacity; while the benefit is extended to the ryot in a certain price for his labour, the employment of many hands during a season when there is hardly any other occupation, and the increase of revenue to the zemindars, as sugar lands pay a greater proportion than any other, are all strong motives for a trial being attempted.

In the way to its accomplishment we are naturally startled at the appearance of expense that must be encountered; and were there not hopes that these might be considerably lessened, the scheme ought on every account immediately to be abandoned. But these, on a fair consideration, are obviously liable to a very great reduction; but still, whether on the most favourable speculation, they can be diminished in such a degree as to place the sugar in this part on a footing with those of Ganjam and Bengal, I confess that I am doubtful.

This subject will be more satisfactorily comprehended by a review of the expenses attending the late experiments, and a statement of such reductions

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as we may reasonably look for at a future period, by which we shall be best enabled to form an idea of the expected advantage.

Cost and Expenses of a Vissum of Sugar-cane Ground, and manufacturing the same.

	Actual Expense.			*Possible Deductions.*		
Paid for the garden	90	0	0	20	0	0
Cutting canes and cooley hire	15	28	0	5	2	0
Lamp oil	—	43	40		—	
Gingely oil	—	19	40		—	
Milk	—	66	0		—	
Coarse cloth	—	40	0		—	
Fire-wood	20	0	0	10	0	0
Pots	6	24	40	4	24	0
Gomastah, two months at 2 Ps.	4	0	0	3	38	0
Peons, two do. at 1 P.	2	0	0		—	
Sugar-bakers do. at 6 do.	12	0	0	5	28	0
Contingencies	2	0	0		—	
M. Pagodas	154	53	40	M. Pagodas	49	6 40
Deduct for 122 maunds of jaggery and syrup at 5 maunds per M. Pagoda	24	22	0	From	130	31 40
				Deduct	49	6 40
Total, M. Pagodas	130	31	40	Remains	81	25 0

Or 5 rupees $10\frac{3}{4}$ annas per maund, ... or 3 rupees $8\frac{1}{2}$ annas per maund.

Here it may be observed, that the sugar in its present state amounted to five rupees and three-quarters per maund; but it has been already noticed, that on the small scale the attempt was made, there would be no necessity to submit on future occasions to the several disadvantages which in this instance were unavoidable, and that by an early provision a very considerable abatement of the expense might be effected. To satisfy, however, any doubts that may arise on this head, I shall beg leave to assign a few reasons on which I have founded these deductions. The first purchase of the garden was made when the cane was full ripe, and when the money borrowed from soucars by the cultivators had amounted to an enormous interest; and moreover we may believe the price was somewhat enhanced, when it was understood that a European was to become the purchaser. But if the possibility of accomplishing the reduction I have stated requires a further illustration, I am enabled to say, that the same quantity of ground, and equal in quality, was soon after proferred me at seventy pagodas. The cutting, which was performed by coolies hired from a distance, I found might have been engaged for, as well as the use of the mill from the cultivators themselves, at 10 pagodas for the vissum.

Fire-wood, one of the heaviest articles among the charges, should have been provided at a proper season, and wafted down the river when at the full to the spot selected for the refinery, by which at least cent. per cent. might have been saved on the price at which it was purchased.

The numerous earthen vessels that were required for the several processes were procured at the extravagant rate at which they are disposed of by retail in the common bazars, and warrants the idea that by persons retained on a monthly pay, for this business in particular, there might have been a saving of two-thirds of the present cost, not to mention the great benefit of substituting iron boilers.

The pay of the gomastah, as he might superintend the manufacture of several vissums, can in propriety only be calculated on a larger extent, which then would not leave a greater proportion of expense than is allowed for, including the deduction.

After the natives of this part of the country learn the Ganjam method of refinement, they would be sufficiently compensated by a monthly hire of five rupees, which is even high in this quarter; and admitting two persons for assistance

Sic. Orig.

assistance at three rupees each, and allowing two months for the manufacture, there would then be the deduction of Pags. 5 28, as before stated.

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If it should not appear that I have been too sanguine in forming my opinion of such expected deduction, and that the jaggery might be disposed of at the rate I have mentioned, the heavy price of this sugar will then be reduced to 3 rupees $8\frac{1}{2}$ annas per maund, and consequently being of a superior quality, might possibly vie with the sugar of any other market. I shall lay no stress upon the further possibility there exists, that by a more general cultivation of this plant it might still be brought lower; nor on the fair prospect that obtains of a recovery of population in the circar, shall I animadvert on the utility of opening a new and certain source of employment to the industrious labourer.

Having now gone through the several particulars of the quantity of ground cultivated, and what sugar may be produced therefrom, with also an account of the expense, should these even be assented to, I am sensible there still remains the most material point for consideration, whether the terms are a sufficient encouragement to attempt any alteration in the present system; to determine on which a more enlarged acquaintance with the comparative prices of sugars, and a knowledge of the superiority of means in other places to produce it are absolutely necessary, before any opinion can be offered by me on the subject, especially as it is to be feared that, in my wish towards an extensive undertaking, I may have overlooked some difficulties that might essentially interfere with its accomplishment. These hints I am, therefore, far from presuming can have any better tendency than the possiblity of inducing a more general trial being made of the advantage, in the contemplation of which I do not resist the anticipation of much pleasure in the prospect it affords of a benefit being rendered the community, a livelihood afforded to industrious individuals, and an increase of prosperity and opulence to the country in general.

Appendix.

A vissum of ground produced 85,140 canes.

Which gave ..... 1,428 pots of juice, 29lbs each, or 41,412 lbs.

Which yielded ..... 300 maunds of jaggery.

100 Mds. of Jaggery produces		300 of Jaggery produces		In Cwts per Acre.	
				H. qrs. lbs.	Cwts. qr. lbs.
Sugar	30 21	92 15	..... Do.	19 3 11	12 0 $14\frac{8}{16}$
Jaggery inferior	25 12	76 12	..... Do.	16 1 16	
Syrup	15 9	46 3	..... Do.	9 3 15	
	71 18	215 6		46 0 14	
Loss in boiling...	28 16	84 18		18 0 18	
Total.....	100 0	300 0		64 1 64	

1 pot, or 29lbs of juice, yields in the following proportions, viz.

	lbs.	oz.	drs.
Sugar	1	8	$14\frac{2}{4}\frac{1}{1}\frac{5}{4}\frac{7}{1}\frac{6}{2}$
Jaggery	1	4	$9\frac{5}{4}\frac{9}{1}\frac{1}{4}\frac{6}{2}$
Syrup	0	12	$6\frac{1}{4}\frac{8}{1}\frac{7}{4}\frac{9}{1}\frac{2}{2}$
Loss in boiling	1	6	$6\frac{1}{4}\frac{6}{1}\frac{3}{4}\frac{6}{1}\frac{0}{2}$

The garden vissum is 200 cubits by 160 cubits, or 300 by 240.

Therefore $300 \times 240 = 72{,}000$ square feet; 1 acre 2 roods, 24 46.

The chak vissum is 250 cubits by 200 cubits, or 375 by 300.

Therefore $375 \times 300 = 112{,}500$, or 2 acres, 2 roods, and 15 perches $\frac{2}{1}\frac{2}{0}\frac{3}{0}\frac{1}{0}\frac{4}{0}$.

The country contains 447 garden vissums, or 738 acres 3 roods,

	Tons.	cwt.	qr.	lbs.			Tons.
And produces	1,438	3	2	15	of Jaggery.		
Or sugar.....	445	0	0	10	.....	Sugar ...	445
Jaggery inferior	366	7	2	12	.....	at	5 Rs. per maund.
Syrup.....	220	18	0	13			
Loss in boiling	405	17	3	8		Rupees	2,07,666$\frac{1}{2}\frac{6}{4}$
Tons	1,438	3	2	15			

Fort St George Revenue Consultations, 29th July 1797.

Further Report of Mr. Brown, Collector of Vizagapatam.

As in the course of these experiments many calculations become necessary, it is not impossible, though ably assisted, but that I may have committed some error, of which though not sensible, I should wish to be rectified, I have, therefore, added the general outline of my account as an appendix.

References to Samples of Sugar.

A. No. 1. Unrefined sugar made by the Ganjam refiners, produced in the proportion of about 250 maunds per vissum of ground, deliverable on the spot at about $2\frac{1}{2}$ maunds the Madras pagoda. The quantity obtainable for the first year, uncertain, as it would depend on the number of refiners that might be engaged from Ganjam; but as the process is easy, and the people employed in the common manufacture of Peddapore sugar expert, it is supposed upwards of five hundred tons might be manufactured in the course of the next season.

A. No 1. X. A superior kind of unrefined sugar, made nearly in the same proportion as the former, deliverable at about two maunds for the Madras pagoda, and obtainable in the same quantity nearly as the former. By the process in which this is manufactured there is considerable quantity of syrup to be disposed of, the sale of which is calculated for at five maunds for the pagoda, in order to reduce the price of the sughr to the above statement.

These sugars, it is to be observed, are extremely capable of reduction in their price after the first introduction of the manufacture.

B. No. 2. The sugar commonly manufactured in the Peddapore zemindarry. By engaging early with the cultivators, a very large quantity of this might be agreed for, perhaps sixty thousand maunds. Under common circumstances this sugar may be purchased at three maunds for the pagoda; but it is difficult of preservation, is small in grain, dirty, and has an empyreumatical taste, with a disposition moreover to run too readily into syrup.

C. No. 3. Refined sugar made after Barrampore method, and particularly referred to in the accompanying observations.

D. No. 4. A superior degree of refinement after the Barrampore method, but more expensive and less in product; the average quantity produced to one hundred maunds of jaggery being little more than twenty-two maunds *to the hundred.* This manufacture, with other costs, amounted to six rupees and four fanams per maund.

E. No. 5. Sugar-candy made merely as an experiment; but under so many disadvantages and expenses, as to render it highly unlikely to meet the Europe markets with any advantage.

Minute of the Madras Government.

The Board are extremely well pleased that the result of the foregoing inquiry into the manufacture of sugar in the Vizagapatam districts should have proved so favourable to the opinions and experiments of the Collector, Mr. Brown; and they entirely concur in the recommendation of the Board of Revenue, that he should be authorized to adopt such measures as he may judge most conducive to an extended cultivation of the cane, and the manufacture of sugar, within his districts.

Resolved, upon this occasion to desire the Board of Revenue will acquaint Mr. Brown, that the Board have a just sense of the zeal which he has manifested for the Company's interests, and for the particular improvement of the districts under his own immediate charge.

BENGAL Public Consultations, 5th December 1799.

Extract of a Letter from Dr. Roxburgh, the Superintendant of the Botanical Garden, dated 1st December 1799.

Bengal Public Consultations, 5th Dec. 1799.

The China sugar-cane.

The China sugar-cane has been cultivated with the utmost possible success. Many hundred thousands have been distributed over the country amongst the cultivators of that article. It continues to resist, on account of its hardness, the attack of the white ant and the jackall, which is of infinite importance, as these animals annually destroy a large portion of the common cane; but the same quality renders it too difficult to express the juice by means of the common Bengal

Bengal sugar-mill, which operates against a more general cultivation amongst the natives. I hope to obviate the inconvenience by introducing from the coast of Coromandel a very simple, at the same time powerful mill. Of this cane there are at present many thousands ready for distribution in the garden.

Bengal Public Consultations, 5th Dec. 1799.

EXTRACT Bengal Public Consultations, 30th September 1801.

Letter from Dr. Roxburgh, Superintendant of the Botanical Garden, 20th August 1801.

SIR:—Your letter of the 30th July I have received, and in reply to the second paragraph, which refers to a copy of Mr. Thomas Barnett's letter of the 13th June, relative to China and Manilla hemp, and beg you will be pleased to inform the Honourable the Vice-President in Council, that I know of no better way of procuring the seeds of these plants than by an application to the Supercargoes at Canton, and sending copies of the accompanying paper to that place, to Prince of Wales's Island, and Malacca.

Bengal Public Consultations, 30th Sept. 1801.

The same object has not been neglected by me. As early as the beginning of the year 1796 I applied to Government to write to the Supercargoes at Canton for the seeds of all vegetables that yield flax and hemp, or that produce substances employed in their stead, as well as for the various sorts of sugar-cane, &c. &c. useful vegetable productions of that country; and at the close of the same year, received a quantity of seed under the name *China Hemp*, with instructions for rearing, &c., but it turned out our common jute.

The sugar-cane received at the same time from China has already been astonishingly multiplied, and of considerable benefit; and I have no doubt, when more generally known amongst the natives, the other sorts, hitherto cultivated, will certainly be set aside. For according to the report of Mr. Touchet, the Commercial Resident at Radnagore, and of Mr. Cardin, the Superintendant of the Company's sugar, &c., farm at Mirzapore Cutna, it not only resists the ravages of the white ant and jackall, but yields about double the produce of the common Bengal cane.

The China sugar-cane.

I have, &c.

W. ROXBURGH,
Botanical Superintendant.

Botanic Garden,
20th August 1801.

EXTRACT Fort St. George Commercial Consultations, 7th February 1800.

Read the following letter and inclosure from the Board of Trade:

Gentlemen:—The Court of Directors having been particular in their favourable notice of Ganjam sugar, we have been anxious to give such encouragement as would increase the provision of this article.

Fort St. George Commercial Consultations, 7th Feb. 1800.

Ganjam sugar.

Mr. Colley, who, in consequence of the encouragement he received from Government, has established expensive sugar-works at Munsoorcotah, addressed us the enclosed letter on the subject, and in order that we might be enabled more fully to judge of the extent of his proposal, we called him before us. We have now the honour to lay before your Lordship the result of our communication with him, and can have no hesitation in recommending the acceptance of his proposal, as holding out a reasonable prospect of considerable abatement in the cost of the Company's sugar, and of extending the provision by increasing the cane plantation.

It may be proper to observe, that the advantage Mr. Colley expects, to enable him to defray the charges of manufacturing the jaggery, and to secure a profit to himself, is from the molasses and refuse of the jaggery from which he makes his rum.

We are, &c.

Fort St. George, 25th January 1800.

To the President and Members of the Board of Trade.

Honourable Sirs:—According to my proposal, which I had the pleasure of laying before your Honourable Board, through Mr. J. Ogilvie, at the close of the

Fort St. George Commercial Consultations, 7th Feb. 1800.

Mr. Colley's Ganjam Sugar.

the year 1798, I have cured and prepared twelve hogsheads of muscovado sugar the produce of the Ganjam district; they contain 20 cwt. each, and cost at my manufactory, according to the present price of materials, 3 rupees 11 annas 8 pice, and a new hogshead to contain 20 cwt. with four iron and eight wood or cane hoops, cost 10 rupees, so that one cask of 20 cwt. will cost on the spot 84 rupees 9 annas 4 pice, or if packed in double gunny bags will cost six rupees per ton, supposing each bag to contain one cwt. and two quarters. The casks or chests seem better adapted for preserving the grain. Except the iron hoops (which may also be prepared in the district), the cask is the produce of the adjacent country from an inexhaustible source. Its low price, quality of grain, and comparative small loss in refining on the spot, give me every reason to believe it will well merit, and equal the most sanguine wishes of its supporters; and should the plan of shipping raw sugars to London from the district take place, in my humble opinion it will tend infinitely better towards a yearly increase than any method that can be adopted, as by taking the whole produce of the planter on the spot of its growth, he will be saved the care, labour, and expense of housing it; and should your Honourable Board think proper, I will attend to its quality, by employing only those who are remarkable for good boilers in the different villages famed for a superiority in the manufacture of sugar. In curing and packing I will separate such as is of an inferior quality, refine it on the spot, and be happy to deliver to your order at the stated prices in the district.

When I was soliciting Mr. J. Ogilvie, Deputy Commercial Resident at Ganjam, for his recommendation of (nearly) the above proposal for making up the investment of sugar for 1799, he favoured me with an estimate of the probable quantity of jaggery to be produced from canes then in growth throughout the district, which was 55,000 rupees. Now if 50,000 rupees worth of jaggery was the produce of the estimate, it would when cured yield 670 hogsheads of raw sugar of 20 cwt. each: but I think not more than one-fourth (if so much) of that quantity would be of a quality fit for the London market during the first year or two; though I can assure your Honourable Board that very little care or attendance is necessary for near the whole produce to be made to answer that purpose, and I have no doubt but in a very few years it would be equal, if not superior to the general run of sugar of the description from the West-Indies; though, through want of attention in the present process, the Ganjam sugar may be not quite so pure. I shall be recompensed by ingredients of a superior quality for my distillery, only asking a preference for my rum, should its quality be approved. Among many instances of its utility, would be the keeping large sums of money in the Honourable Company's territorial possessions, which now benefit our sometimes public, and at all times our private enemies the Dutch; I have also the satisfaction to add, it would double the amount of any worth produced by canes yearly in the district.

The following method I humbly beg leave to propose for the encouragement of cane ground, and I, with the support of Government, will undertake the direction without any additional charge to the investment.

As I have demonstrated to the natives near my manufactory, that the old roots will produce new shoots of a superior quality to newly planted canes by letting a field lay over, after the method of the West-Indies, which field was supposed incapable of growing canes of any kind; to shew the same example through the district, I will to the utmost of my abilities buy the good-will of different fields from the natives after they have cut the newly planted canes, and employ those natives of the different villages, when I so purchase, to preserve and water the cane-roots at my own charge, by which means every one who chuses will have a proof of the benefit arising from this method; they will see that with less care, a fourth of the labour and expense, an equal profit arise; it will not interfere with the ensuing crop, and should the rattoons meet with any accident which new plants are also liable to, it may be easily ascertained long before the following season of cultivation commences. From what I have observed of the natives during a residence of four years (which time it has taken me through a number of unforeseen and indeed unthought-of obstacles) and notwithstanding their proverbial obstinacy, I am persuaded they will adopt

the

Fort St. George Commercial Consultations, 7th Feb. 1800.

Mr. Colley's Ganjam sugar.

the simple plan of keeping to themselves the profit apparently to accrue to another, more especially where they see the old roots producing new shoots of a superior growth, and promising a better crop than their newly planted fields: then is the time on their agreement to continue the plan where it answers best (as some grounds are better adapted to rattoons than new plants). I shall propose giving them up the thriving crop on their paying me the little expense I may have been at in its preservation. The trial cannot be of much expense to me, and in its success I shall be essentially benefited in being enabled to enlarge, or at any rate have employ equal to my present manufactory; and in the event of adopting this plan, the Honourable Company's investments will be greatly increased, I shall be amply recompensed in being able to procure a large quantity of materials of a better quality, perhaps cheaper from the increase of its growth; the farmer, enriched from what hitherto produced him nothing, will be forced to bring waste ground into cultivation, procuring employ for the poor in a season of idleness (which is between harvest and the season that cultivation again commences.) Attention to the ratoons being only necessary in that season, it will cause an increase of labourers by augmenting the means of their existence, as population will ever increase as the means of their support is attainable.

Your Honourable Board will best judge of the probable increase in the growth of sugar-cane (which the natives are fond of cultivating), as the whole ratoons laying over cannot decrease the quantity, though their success will greatly augment it; and when fully established I shall be able to afford a considerable reduction in the price of sugar of all descriptions. Should your Honourable Board, approving my service, be pleased to continue me in making up and packing them, the refined sugars will be first stove-dried, then packed and preserved until shipped in a store-house now building; it will preserve the whole from damp air and thereby preserve the grain entire, in consequence of which the sugar will average better, both in quality and quantity, in the market: the being exposed to the moisture of the atmosphere destroying that essential point in its quality, the grain. I have a manufactory complete, sufficient for your whole investment of sugar (while that article needs the support of Government), under any probable increase, and as the contents of the hogsheads must come under the article of muscovado, or raw sugar, the body of refiners may (from its good quality) promote, instead of opposing to their utmost, the importation of East-India sugar.

Should your Honourable Board, on considering these proposals, condescend to patronize and support with your authority (the hopes of which has alone supported me through incredible difficulties, having always heard it was the wish of the Government to encourage such establishments), this rising staple in a manufactory just fully established, its progress and success is beyond doubt; otherwise its decline is as certain. As I am informed another manufactory is on the point of being established with strong support, and as two, from the small produce of the district, cannot exist any time, one or perhaps both must fall, and the branch of manufacture return among the natives, who will never increase the quantity in any proportion to what Europeans could; and as I, at a great expense and risk, with long close attention and economy, have effected my purpose, in perfecting my plan in a country where no one had any idea of the manufacture, and employing only natives in the process, (only begging leave to observe, that had my endeavours failed through want of prudence, or any other reason, some time would probably have elapsed before any one would have commenced the business again, also that there is so large a field in the adjoining district), I do hereby humbly beseech your Honourable Board that you will be pleased to give me three years, or what your Honourable Board may think proper, to benefit by the establishment; at the end of which time, should it continue your wish that manufactures of the kind should be established, and no one has commenced such an establishment, I promise to begin one in or near the Chicacole district, in any part near the sea-coast that you may judge best adapted to the purpose. Perfectly relying on your generosity, candour, and justice,

I have, &c.

Madras, 20th January 1800. W. J. Colley.

To the President and Members of the Board of Trade.

Fort St. George Commercial Consultations, 7th Feb. 1800.

Mr. Colley's Ganjam sugar.

Gentlemen :—For all the jaggory received at my manufactory at Munsoorcotah, I engage to deliver its full produce of sugar, without any charge for manufacturing it.

2. I engage to purchase jaggory myself for the Company in the different villages of the Ganjam district, the Resident advancing the money as I require it, or paying my notes as they are produced by the settlers of the jaggory, and advancing me money only for the carriage of it down, and for the few servants I employ, of which I will lay a list before you; the rates of purchase to be certified by the revenue officers of the different villages wherein the jaggory is bought, or in such other manner as you may determine.

3. The sugar, as fast as it is made, I will deliver to the Company's servants at Monsoorcotah, to be packed, as at present, at the Company's expense; and I will then keep it in my store-houses, to keep it dry, without charge to the Company, until shipped; one key of the store-houses to be kept by the Resident's servants.

4. That, as it is impossible to fix what shall be the produce of sugar from jaggory, depending upon the quality of the cane, which is better or worse according to the season, I offer to submit to such check or inspection as the Board may determine, or to deliver the accounts upon honour or upon oath; but if an inspection of my books is required, it must be confined to the Board of Trade only.

5. I engage that the price of the sugar thus produced shall not be more than the present Company's prices; but I have a firm conviction it will be much less, decreasing in cost in proportion as the cultivation of the cane is extended: and as a further insight and check upon me, I will lay before the Board my account till this time, shewing what has hitherto been the produce of my jaggory in sugar, the cost of such sugar, and its sale prices.

6. The jaggory is collected in the months of March, April, and May, and the delivery of sugar, the produce of such jaggory, shall be made by me progressively, commencing in the month of May, and to be completed the 31st Dec., if possible, but on no account later than 31st January; and for the security of the Company's sugar under my charge, I offer my establishment at Monsoorcotah, which now stands me in 44,000 rupees.

7. For the security of the Company's jaggory whilst manufacturing, I request five invalid sepoys. The natives are much addicted to pilfer, particularly that article, and the Company's produce might otherwise be less.

As the present entire product of canes in the district is scarce sufficient for my manufactory, and as I engage to deliver all the sugar I make to the Company, I hope that no other European manufactory will be allowed to be established during the period of my engagement.

8. I agree to extend this engagement to a period of five years.

9. As the sugar-cane is not planted to so great an extent as it might be, as there is difficulty in realizing the revenue from the superabundance of paddy, and as sugar-cane is much more profitable to the landholders, I request they may be encouraged to extend the cultivation of the cane by small advances (not in the whole district exceeding 5,000 rupees); and if necessary, for the first year or two, that small bounties be granted them for jaggory produced, and a certain market for it by the Company. I will give any advice and assistance that may be asked by or for the natives in the cultivation.

10. In return for this moderate offer of supplying the Company's sugar, I request their support, and all proper assistance from the Collector and Resident.

11. That the Resident should be directed to establish a standard measure for The jaggory, as the udda by which it is now received differs in many villages. The Company's udda is 2 oz. 8. In some villages it is as low as 1oz. 12.

I have, &c.

Fort St. George, 24th January 1800. W. J. Colley.

Fort St. George Commercial Consultations, 7th Feb. 1800.

Agreed, To approve the recommendation of the Board of Trade for encouraging the manufacture of sugar in the province of Ganjam; but at the same time to desire that the Company may not become in any shape the manufacturers of that article, and that their arrangements with Mr. Colley do not exceed the purchase of such quantities.

Minute of Government.

Agreed, however, To inform them that this prohibition is not to prevent the assistance of reasonable advances of cash, and that they are to be guided in fixing the prices of the sugar, by the information they may occasionally derive from the price of the sales in Europe.

EXTRACT Proceedings of the Board of Revenue at Fort St. George, June 1800.

Extract Letter from the Board of Trade to the Governor in Council.

Revenue Board at Madras, 30th May 1800.

My Lord:—We have desired the Collector of the first division of Vizagapatam to incur no further expense in the manufacture of sugar on the Company's account, requiring him to report on what terms Mr. Parkinson, the Superintendent, would purchase the stock on hand, were he inclined to continue the speculation on his own account.

It appears, however, that Mr. Parkinson's ability does not extend to the purchase of the whole, but that he is desirous of taking a small part only of the stock: this proposition we do not consider admissible, and shall not therefore tender any remarks thereon.

Mr. Parkinson has made proposals to manufacture sugar on his own account, and to deliver it at the rate of two rupees and a half per maund: desirous as we are to encourage the speculation, we cannot consent to recommend the accceptance of his offer, as it may have the effect of keeping up the price.

The industry of Mr. Parkinson we have frequently had occasion to notice, as well as the zeal he has shewn in his endeavours to promote objects of public utility, and on no occasion more than the one now before your Lordship, wherein he has successfully seconded Mr. Brown's efforts, by introducing the manufacture of sugar among the natives, and by his own exemplary perseverance has made them sensible of the benefits which they will themselves derive from the culture of the cane. We have always considered it an object of the first importance to induce them to undertake speculations on their own account; in the present stage, therefore, encouragement from Government appears only necessary, to complete what has been so successfully begun: we therefore request your Lordship's sanction for authorizing the Collector to make such advances of tacavy as may appear necessary for increasing the cultivation of the cane to as great an extent as circumstances will admit, the repayment being secured to the Company.

The musters of sugar sent to the Presidency, we are informed by judges of this article, are of good quality, and calculated to answer the Europe market. We solicit your Lordship's sanction to fix the price to be paid to the inhabitants, for the present year, at one and a half rupees per maund of muscovado sugar or Pagodas 8 2½ 57 per candy of 500lb. We are well aware that an enhancement of cost is inevitable in the infant state of a manufacture, having all the disadvantages and difficulties to encounter of prejudice and inexperience, which however we entertain no doubt will be speedily surmounted, and that the price will fall considerably when the manufacture is once firmly established.

In the event of our recommendation meeting your Lordship's approval, it will be necessary that, for the present, it be subject to careful superintendance; and as we are fully satisfied with Mr. Parkinson's integrity, his knowledge of the business, aided by an acquaintance with the language, we trust your Lordship will consider him deserving of the situation of Superintendent and Receiver of Sugar for the Company, upon an allowance of fifty pagodas per month; and as he has been actively employed in the promotion of this speculation, to the exclusion of his own pursuits, we further solicit a retrospect to the period when his allowance was discontinued.

We have, &c.

WM. PETREE, &c.
Members.

Fort St. George, 30th May 1800.

Fort St. George Revenue Consultations, 7th June 1800.

Order of Government thereon.

EXTRACT Fort St. George Revenue Consultations, 7th June 1800.

To the President and Members of the Board of Revenue.

Gentlemen :—We have received your letter of the 30th ultimo, with its several inclosures.

The zeal and assiduity displayed by Mr. Parkinson, in his endeavours to promote the interest of the Company by the extension and improvement of the culture and manufacture of sugar, are entitled to our commendation and encouragement, and we shall be happy to allow him a reward adequate to his exertions.

With this view, we desire that a tender may be made to him of the Company's sugar-works at a moderate valuation, to be paid for by the delivery of sugar at such price as may be fixed, on a farther consideration of the subject; a mode of recompence which we consider preferable to the one recommended by you, as combining the interest of the Company with his individual advantages.

Any other mode of disposal of the buildings and manufacturing apparatus, would, we conceive, involve the Company in considerable loss.

Should Mr. Parkinson, however, still decline the purchase of the works upon the above terms, we shall not object to allow him a pecuniary remuneration, by employing him upon a fixed salary, as Superintendent and Receiver of theCompany's sugar.

We are, &c.

CLIVE, &c.

EXTRACT Fort St. George Revenue Consultations, 27th June 1800.

Extract Letter from the Board of Revenue to the Governor in Council.

Fort St George Board of Revenue.

We have the honour to acknowledge your Lordship's orders, under date the 7th instant. In our address of the 30th ultimo, we omitted to notice to your Lordship that Mr. Parkinson had declined the purchase of the Company's sugar-works at Cassimcotah, and the materials for manufacture tendered by the Collector at his own valuation, not only from the want of ability, but owing to the most expensive part of the apparatus, the stills, not answering the use required of them, from want of perfection in the construction, and that the boilers being made of copper were too expensive, circumstances of error to which the introduction of a manufacture is liable.

On the sale of these articles, the eventual loss to Government can be but small, and we therefore recommend the adoption of the alternative alluded to in your Lordship's letter, that Mr. Parkinson be appointed superintendant and receiver of the sugars from the inhabitants on account of the Company, on such monthly allowance as your Lordship shall deem proper; and we shall direct the disposal of the stock at public sale, estimated, we observe, including the stills and buildings, at about 2,700 rupees. We also recommend that the Collector may be immediately authorized to make the proposed advances of cash, to assist the culture of the cane, and that in fixing Mr. Parkinson's allowance, retrospect may be had to the period when it was discontinued in December last, as a remuneration for his services from that to the present date.

As the object we have in view is to encourage the manufacture of sugar among the natives, and as Mr. Parkinson seems of opinion, that by giving an iron boiler, value thirty rupees, and a mill with three rollers, at 10 rupees, to such of them as particularly promote the undertaking, and whose sugars shall be approved on arrival at the Presidency, we beg leave to recommend his being allowed to promulgate, that this reward will be granted accordingly, as one, the benefit of which will revert to the Company.

EXTRACT Fort St. George Revenue Consultations, 27th June 1800.

The Governor in Council would be happy to reward the merits of Mr. Parkinson, in the manner pointed out by the Board of Revenue; but on a further consideration

consideration of the subject, the Board are of opinion that they cannot incur an additional expense by the appointment of Mr. Parkinson as superintendant and receiver of the sugar from the inhabitants on account of the Company, while there is a Commercial Resident on the spot, whose particular province it is to receive commodities of this nature.

Fort St. George, Revenue Consultations, 27th June 1800.

Agreed, therefore, To inform the Board of Revenue of this circumstance, and

Resolved further, To inform the Board of Revenue, that if the inhabitants of the districts of Vizagapatam should be disposed to cultivate the sugar-cane as an article advantageous to themselves, that the Board authorize the Collector to make such recoverable advances as may be necessary to assist them; but agreed to restrict the Board of Revenue from engaging the Company in the cultivation of the sugar-cane or the manufacturing of sugar. If the price at which the inhabitants may be able to afford the sugar should render it expedient for the Company to purchase it as a commercial commodity, the Resident will be authorized to do so.

Final order of Government on Mr. Parkinson's proposal.

Resolved also, To decline the establishment of a fixed price for the purchase of sugar.

Ordered, That the still, boilers, and all stock on hand, be sold at public auction without delay.

EXTRACT Fort St. George Commercial Consultations, 19th February 1802.

Extract Letter from the Collector of Ganjam, dated 6th Feb. 1802.

Mr. Colley's Ganjam sugar. Letter from Collector, 6th Feb. 1802.

4. I trust I may be excused trespassing further by offering a few words on the natureof he Company's concern in sugar, as established under the direction of Mr. Colley, at Monsurcottah.

5. If I am rightly informed, the price of his sugar is estimated at the rate of purchase-money, bestowed on procuring the quantity of jaggery required to produce a specific quantity of sugar; that is to say, for three maunds of jaggery at eight annas per maund, he will furnish Government with one maund of sugar to cost one rupee and a half, or if it should require five maunds of jaggery to produce one maund of sugar, he will increase his demand to two and a half rupees for that quantity.

6. Experience in the process of the manufacture will place the rate of purchase (under such circumstances) completely at variance with all due calculation, and it will be found that Government is not only subject to the uncertainty arising from the unskilfulness of the manufacturer, but to the unfavourableness of the season chosen for the manufacturing process. Under all these varieties in the nature of such a concern, the uncertainty in the price of the sugars stands established; and it will be only necessary to judge of this, by reflecting on the usual result of the process.

7. The usual result of the quantity of good jaggery required to make good brown sugar, is, on an average, as two to one of the article. But suppose it be rated at two and a half maunds of jaggery to one maund of good merchantable sugar, which it ought not to exceed, we should only have to require the market price of jaggery in the province, or in the vicinity of the manufactory, to determine the exact price at which the sugar ought to be sold. But here such a calculation cannot be admitted; for whatever quantity of jaggery is taken up in the manufacture (which, during moist weather, will probably be threefold), constitutes the price of the maund of sugar produced from it.

8. Under the second, and not least material consideration of the subject, I take the liberty to mention, that the exclusive concern of Mr. Colley in the provision of sugar for the Company, operates as a great check to the advancement of an article, which may be justly esteemed the staple produce of the Ganjam province. It operates from the same causes, as a counteraction to the industry and acknowledged skill of professed native manufacturers in the article; and in the same degree, by tending to debase the quality, and at length wholly to obstruct the making of sugar by the natives on their own account,

Fort St. George Commercial Consultations, 19th Feb. 1802.

as a diminution of this source of the revenues of the province. At present many very responsible and approved manufacturers of the article, proprietors of great tracts of cane, would give very excellent and good grained sugars, equal to muster, at two rupees per maund; and I conceive, if it were required, that the present year would afford a supply of such sugars, to the extent of at least 40,000 rupees. What might it not be expected to yield, were a liberal competition permitted, and the sugars answering to muster publicly and generally received in the lieu of revenue, or exclusively by the Commercial department, which would, in fact, conspire to the accomplishment of the same end.

I have, &c. WM. BROWN.

EXTRACT Fort St. George Board of Revenue Consultations, 5th June 1815.

Read the following letter from the Collector in Cuddapah:

Fort St. George Revenue Board, 5th June 1815.

To the Resident and Members of the Board of Revenue, Fort St. George.

Gentlemen:—Taking into consideration the late news from China, which creates a belief that the period is not far distant when the trade with that country will be carried on with much less facility and regularity than have hitherto been experienced, I am induced to bring to the notice of your Board a subject connected with it, which, independently even of the circumstance I have alluded to, is perhaps deserving of very serious consideration. I mean the due encouragement of the manufacture of the finer sorts of sugar and sugar-candy in the provinces under this Government.

For encouraging the manufacture of sugar-candy and fine sugar.

2. The presidency of Madras is at present dependent on China for its supply of those articles, particularly the latter, and that supply is not always certain; when it fails, the sugar-candy of Bengal is sold in its room. The latter is of a coarse description, and made with a thread on which the crystals are formed, which renders it very unpleasant for the general purpose to which it is applied of sweetening tea. It is, moreover, sold at a most unreasonably high price.

3. From the specimen which I have herewith the honour to transmit, your Board will observe that sugar-candy nearly, if not fully equal to that of China, and incomparably finer than that of Bengal, is manufactured in this district, at a price far below that of China, and but little more than half of that of Bengal. The sugar-candy I send is sold at eight rupees per maund at Goorumcondah, whilst that of China is never less than eight pagodas per tub, and is at present selling at Madras for ten pagodas. The tub contains $2\frac{1}{2}$ maunds, so that the lowest rate is $11\frac{1}{5}$ rupees, and the present rate 14 rupees per maund. The Bengal sugar-candy is also sold by Messrs. Griffiths and Co. at 14 rupees per maund.

4. The manufacture of this fine sort of sugar-candy is at present in its infancy in this district, and confined to but a few persons, and those few all of the same family. General encouragement will induce others to follow the trade, and by the competition the article itself will be improved, and the price in some degree lowered.

5. There can, it is to be presumed, be no objections on the score of policy to giving the proposed encouragement. It is surely wise to be as independent as possible of a foreign market, and though there may be reasons for discouraging the export of sugar to Europe, there can be none against our making it for our own use; and as the Company do not enter into the trade in question, I cannot foresee any objection that can be made to a full and general encouragement being given by the Government to the manufacture.

I shall, therefore, take the liberty to submit the following proposals for this purpose, premising, however, that the most effectual encouragement that can be given to the undertaking will be the determination of individuals at Madras to adopt the use of the home-made sugars in their families, in preference to those of China and Bengal.

6. First. All customs on the finest or first sort of sugar and sugar-candy, the manufacture of the provinces under this Government, to be for the present remitted.

Second.

Second. Permission to be given to grant tuccavy to all ryots who plant *new* sugar-cane gardens, to be collected again within two years, or three, if necessary, and not within the same year, as is done in the case of common tuccavy.

Fort St. George Revenue Consultations, 5th June 1815.

Third. Permission to be given to grant tuccavy to persons setting up works for the manufacture of fine sugars, to be returned by them within two, three, four, or five years, according to circumstances. This tuccavy is to be repaid with interest at eight per cent., good security for its repayment to be taken of course.

Fourth. That the sugar required by the Commissariat and other Government Agents be obtained, if possible, always from the Company's own provinces, and that till that supply fail, or the article rise greatly in price, foreign sugar be not used.

7. Under the advantages held out by these provisions, there is, I think, little reason to doubt that in a few years we shall not only be independent of the China market for the supply of this most useful article of domestic consumption, but shall have succeeded in introducing a taste for the finer sort of it amongst the higher classes of the natives, to the supercession of the coarse stuff that they now use, and the still coarser article of jaggery also very generally used by them in their food, which will in the end tend to make its consumption so general, that it will become a common article of trade, and a productive source of revenue in the department of the Customs, which may then again be laid upon it.

I have, &c.

C. Ross, Collector.

Kurpah, 29th May 1815.

Sent the following letter to the Collector in the zillah of Ganjam, together with copy of the foregoing letter:

Sir:—I am directed by the President and Members of the Board of Revenue to transmit to you the enclosed copy of a letter recently addressed to them by the Collector of Cuddapah.

2. As the Board believe that the article of sugar-candy as well as white sugar is manufactured in considerable perfection in the Ganjam district, it is the desire of the Board that you will ascertain and report to them the wholesale prices at which these articles are respectively procurable in Ganjam, and that you will transmit by the bangy a small quantity, by way of specimen, of the first-mentioned article, if you have the ready means of so doing.

3. You will, at the same time, state how far the propositions of Mr. Ross for encouraging the manufacture of sugar-candy may be considered by you to be applicable to the district under your charge; in other words, whether you are of opinion that their adoption would be attended with the expected beneficial effect.

I am, &c.

J. Hanbury, Secretary.

Fort St. George, 5th June 1815.

Extract Fort St. George Revenue Consultations, 31st July 1815.

Read the following Letter from the Collector in the zillah of Ganjam.

Fort St. George Revenue Board, 31st July 1315.

To the President and Members of the Board of Revenue at Fort St. George.

Gentlemen:—Agreeably to your letter of the 5th June, I have the honour to inform you, that I have this day dispatched per bangy to your Board a sample of two kinds of sugar-candy, and two kinds of sugar, with the prices annexed.

In the sample the sugar-candy and sugar is called first and second sort, but I am confident that the quality could be improved, for the present musters are taken from the quantity now on hand, and which has been made on the chance of

Fort St. George Revenue Board, 31st July 1815

of sale, and the price is the present price in the district, and might by giving notice, advance, &c. be got much cheaper; for example, the first kind of sugar-candy is stated at five rupees per maund, whereas I have seen better by giving time and advance at 4½ rupees, and 4 10 annas per maund.

I should think that the quantity of sugar could be extended to almost any number of maunds annually. For a few years, two or three I believe, the Company were in the habit of getting sugar from this district for export, and the quantity procurable annually increased and would still have increased, had the Company required it At the manufactory of Mr. Colley, at Munsoorcottah, there was made in one year on account of the Company 705,000lbs., upwards of 300tons, and from the districts that year there was exported upwards of 800,000lbs.

If it were an object to procure a great supply, it would be necessary to make an advance in the first instance, and probably another advance before the sugar was ready for delivery; but the two advances could not come to the price of the sugar at present. The manufacture has decreased because the demand does not seem to be great, but in the course of two or three years it could be greatly increased. I understand a considerable quantity of sugar-candy is occasionally sent from this district to Madras for private consumption, as it is much cheaper than China, and I do not know that the real difference in quality is great.

I have, &c.

H. Spottiswoode, Collector.

Ordered, To be brought forward at a future meeting, together with Mr. Ross's letter received on this subject, under date the 29th May last.

Fort St. George Revenue Consultations, 11th Sept. 1815.

Extract Fort St. George Revenue Consultations, 11th September 1815.

Read the following letter from the Secretary to the Board of Revenue.

To the Chief Secretary to Government.

Sir:— I am directed by the President and Members of the Board of Revenue to submit, for the consideration of the Right Honourable the Governor in Council, the enclosed letter from the Collector in Cuddapah, respecting the sugar-candy and sugar made in his district. The Board having reason to believe these articles to be manufactured in considerable perfection in the Ganjam district, communicated Mr. Ross's letter to the Collector there, whose answer I am also desired to enclose.

2. The Board are of opinion that much attention is due to Mr. Ross's proposals. Previously however to their being acted upon, they beg leave to recommend that a reference may be made to the Board of Trade to ascertain their opinion as to the quality of the articles, and the expediency of affording encouragement to the manufacture of them.

3. The specimens sent by the respective Collectors are herewith transmitted.

I have, &c.

J. Hanbury, Secretary.

Fort St. George, 21st August 1815.

Ordered, in consequence, That the following letter be dispatched to the Board of Trade.

To the President and Members of the Board of Trade.

Gentlemen:— I am directed by the Right Honourable the Governor in Council, to transmit to you for your consideration and report the accompanying copy of a letter from the Secretary to the Board of Revenue, relating to sugar and sugar-candy manufactured in the districts of Cuddapah and Ganjam, together with copies of its enclosures, and also the specimens of those articles with which it was accompanied.

I have, &c.

G. Strachey, Chief Sec. to Government.

Fort St. George, 11th Sep. 1815.

Extract

Fort St. George Revenue Consultations, 15th March 1816.

EXTRACT Fort St. George Revenue Consultations, 15th March 1816.

To the Chief Secretary to Government at Fort St. George.

Letter from Board of Trade, 4 March 1816.

Sir:—I am directed by the President and Members of the Board of Trade to acknowledge the receipt of your letter of the 11th of September last, transmitting for their consideration and report, copy of a communication from the Board of Revenue, relating to sugar and sugar-candy manufactured in the districts of Cuddapah and Ganjam, with specimens of those articles with which it was accompanied. The object of the reference, as stated by the Board of Revenue, is to ascertain the quality of the articles, and the expediency of affording encouragement to the manufacture of them. As far as an opinion can be formed on small quantities transmitted as specimens, the Board would be inclined to consider the sugar-candy as the production of a manufactory in its infancy, to be worthy of encouragement, particularly if the encouragement were likely to make the home manufacture permanent, to the exclusion of foreign supplies; it is to be observed, however, that comparatively with Chinese sugar-candy, the specimens before the Board are estimated to be generally inferior, being deficient in the quality of sweetening, and certainly not so clear and pure. Those defects it would of course be the interest of the manufacturers to correct, as indeed is contemplated by the Collector of the Ganjam district.

2. In respect to the relative produce of Ganjam and Cuddapah, the former is stated at the rate of five rupees per maund, whilst the Cuddapah is valued at eight rupees at the places of manufacture; a very material difference in price against the Cuddapah produce, and which would probably be further augmented by land carriage beyond the charges of sea freight from Ganjam to the Presidency. Under these circumstances, as well indeed in reference to the quality of the article itself, the preference by comparison is apparently in favour of the Ganjam sugar-candy.

3. With regard to the article of sugar, the Board beg leave to state that the quantity formerly provided on account of the Company was of approved quality, but the supply was discontinued by orders from the Honourable the Court of Directors, and there seems to be no inducement again to venture on the speculation.

4. The aforegoing observation has only application to *soft sugar*. The samples of that before the Board, in loaf, seem of the same description, and good of the kind. The precise cost of it is not specified, but the Board apprehend that either in that or a more purified state, it could not answer for the purpose of exportation to England, in competition with the supplies from Calcutta and the West-Indies, or be at all adapted for the Europe market.

5. On the actual question of encouragement to cultivation and consumption, remission of duty for a given period, with any other indulgences which it might be expedient to grant, in the shape of advances, as suggested by the Collector of Cuddapah, on the transit of the first sort, would seem best calculated to promote the manufacture of the above articles. Little positive loss could accrue to Government from the remission of duty, for it is only foregoing an advantage for a time, which otherwise might never be realized, as the quantity manufactured at present does not appear to be worthy of being considered in the calculation.

6. All these points, however, having more immediate relation to the question of revenue policy, the Board refrain from entering into a minute detail, since they cannot entertain any hopes of contributing to the ultimate favourable result so much desired, with prospect of beneficial consequences, in a commercial point of view, to the Honourable Company's trade, to which their finances are strictly confined. The question of local consumption is not within their province, nor have they the means of attaining any correct information on the subject.

7. The Board observe, that Mr. Ross has quoted in support of his recommendation the price charged by Messrs. Griffith and Co. on Chinese sugar-candy, at the rate of ten pagodas per tub, and Bengal sugar-candy at the rate of fourteen rupees per maund, which amounts to the same. It seems

Fort St. George Revenue Consultations.

Letter from Board of Trade, 4 March 1816.

doubtful whether this can be taken as a fair criterion, as the market price now is only seven and a half star pagodas per tub for Canton sugar-candy of the first sort. Upon a reference to the Collector of Sea Customs, it appears that sugar-candy imported from China is included in the general invoice of goods, and that duties are assessed on the aggregate amount with an addition of fifteen per cent. The price of the sugar-candy at Canton is stated to be from seven to eight dollars per tub: assuming the medium rate, the comparison would probably stand thus:

China Sugar-Candy.

A tub of China sugar-candy containing two maunds and a half, at seven dollars and a half .....Ps.	4	30	75	
Freight at one dollar per tub	0	28	10	
Insurance, say two per cent.....	0	4	40	
Import duty and fees	0	30	20	
				6 3 65

Being at rupees 8, 6 fs. 50 ch. per maund.

Cuddapah Sugar-Candy.

A tub of sugar-candy at Goorumcondah, containing two maunds and a half, as per letter from the Collector 5	31 70
Difference.....0	16 75

Being at 8 rupees per maund.

8. As the Board have not the accounts of the Reporter of External Commerce to refer to, they are unable to state the general extent of the importations of foreign sugar and sugar-candy, at the sea-ports under this presidency; a point of information, in their opinion, much required on the present occasion, should the further discussion of the subject be thought necessary by the Board of Revenue. It may be presumed, that nearly the whole passes the Sea Custom-House at Madras: the importation however appears to be very uncertain. In the two last years, the quantity of China sugar-candy was per annum 1,200 tubs, or 3,000 maunds, and in this season the Collector has already passed 2,700 tubs, or 6,750 maunds; the annual supply of Bengal sugar-candy is estimated at 130 candies, or 2,600 maunds. Besides these sources of supply, it appears that very large importations, cheaper and of a superior description, occasionally arrive from Java: but the extent and the period of arrival are said to be very uncertain. The average annual extent of supplies of Bengal sugar imported at Madras is about 1,120 candies, estimated according to the Sea Custom-House tariff, from eighteen to twenty pagodas per candy.

9. These observations are offered as mere suggestions arising out of the question under consideration, and not with the intention of conveying any definite opinion on the main points of cultivation and manufacture of sugars, which the Board apprehend will rest entirely for the decision of the Revenue Department to prosecute, distinct from any idea of its becoming an article of export from hence in behalf of the Honourable Company.

I have, &c.

J. GWATKIN, Secretary.

Board of Trade Office, 4th March 1816.

Ordered by the Governor in Council, That the above letter of the Board of Trade respecting sugar and sugar-candy be transmitted the Board of Revenue for their information.

EXTRACT

EXTRACT Letter from the Bengal Board of Trade to the Governor-General in Council, 20th November 1818.

Letter from the Bengal Board of Trade to the Governor General in Council, 20 Nov. 1818.

83. The amount allotted by the Honourable Court for the provision of sugar in the present year, including all charges, was S.Rs. 2,06,896; expected to furnish 1,000 tons of sugar.

84. In consequence of the high price of sugar, and with reference to the rate which was paid last year for that article, we considered that it would be impossible to provide the quantity required for the sum allotted by the Honourable Court of Directors, we therefore resolved that the remaining part of the surplus sum appropriated by your Honourable Board for the services of the investment, *viz.* S.Rs.15,219 14, should be reserved for the purpose of being eventually applied to the provision of sugar.

85. We regret to observe that we have been compelled to sanction high prices, although less than those paid last year, a great demand still existing for this article at Benares, in consequence of a number of European and native merchants having embarked their capital in that trade; the produce of sugar, however, having been more abundant this year than usual, the Resident hopes to be able to provide some part of the investment at a less rate than that estimated.

86. There is an increase on the charges of packing and transportation this year, which we desired the Resident to explain; and he stated in reply that it arose from the gunney bags being much dearer than last year, and with difficulty procured even at the enhanced price demanded. It was also necessary to give an additional rate for the freight of the sugar to Calcutta, the private merchants paying enormous rates to have their sugar delivered quickly in Calcutta. Under the foregoing circumstances, therefore, we sanctioned the augmentation in the above rates.

LETTER from the Resident at Benares to the President and Members of the Board of Trade at Fort William.

Letter from Resident at Benares to the Board of Trade at Fort William, 5 Feb. 1819.

Gentlemen:—I have the honour to acknowledge the receipt of your letter dated 22d ultimo, desiring I would provide one thousand tons of sugar, and transmit an estimate for this provision, comprehending in it all charges except commission and export warehouse charges.

As the opening prices of sugar of the present season correspond as nearly as possible with those of the last year, I beg to submit for the Board's approbation a similar estimate to that which was transmitted in 1818 for the same quantity to be provided in the current year. The prices are of course liable to fluctuation, particularly in the months of March and April; and I hope they may fall below my estimate, notwitstanding a considerable capital is likely to be embarked in this speculation both by Europeans and natives.

I have, &c.

Benares Factory, 5th February 1819. C. SWEEDLAND, Resident.

No. 1.—*ESTIMATE of Sugar to be provided at Benares and Mow and Azimghur Factories in* 1819.

	Mds. of 105 S.wt.				Factory Maunds.				Ca. S. Rs.	A.	P
Benares Sugar.											
Cheenee,	12,000...at B.S.Rs. 11 per Md.	1,32,000	0	0	or 16,950	0	0,	at 7 7 2...	1,26,307	8	0
Azimgur Sugar.											
Cheenee,	9,239...at B.S.Rs. 11 per Md.	1,01,629	0	0	or 13,050	3	8,	at 7 7 2...	97,246	4	0
Maunds	21,239 of 105 S.-wt.....	2,33,629	0	0	... 30,000	3	8	seers, or			
					1,000 tons.				2,23,553	12	0
	Deduct batta 4-5 per cent....	10,075	4	0							
		2,23,553	12	0							
								Carried forward.....Ca.S.Rs.	2,23,553	12	0

			Brought forward.	2,23,553	12 0
Charges on sugar, bullock-hire, cooley-hire, charges on treasure and contingencies of every description, estimated				2,554	7
				2,26,108	3 9
Charges packing, as per statement, No. 2			4,812	3 4	
Do. transportation do. No. 3			7,179	8 11	
				11,991	12 3
Total cost and charges to the Presidency, at Ca.S.Rs. 7 14 11⅝ per maund,			Ca.S.Rs.	2,38,100	0 0

Advances required immediately	Ca.S.Rs.	1,50,000
Ditto on the 15th April 1819		50,000
Ditto on the 15th May		38,100
	Ca.S.Rs.	2,38,100

Expected Dispatches.

1819, By 30th June, Factory Mds.	9,000	0	0	Tons	300	Ca.S.Rs.	71,430
31st July	9,000	0	0	...	300	.....	71,430
31st August	12,000	3	8	...	400	.....	95,240
Factory Maunds	30,000	3	8	Tons	1,000	Ca.S.Rs.	2,38,100

No. 2.—*Estimate of Charges packing.*

Cloth bags 10,620, at 25 rupees per 100 bags	Bs.S.Rs.	2,655	0 0
Gunny do. 10,620, at 13 8 do. do.		1,433	11
Cooley-hire on Maunds 21,239, at 8 annas per 100 maunds		106	3 1
Weighmen on do. do. at 4 do. do.		53	1 7
Mohurrers, 5, for 6 months, at 10 rupees each per month		300	0 0
Peons, 16, for do. at 3 rupees each do.		288	0 0
Marker on 10,620 bags, at 8 annas per 100 bags		53	1 7
Twine, sewing bags, marking ink, and petty charges		140	0 0
		5,029	1 5
Deduct batta 4-5th per cent.		216	14 1
Calcutta S.Rs.		4,812	3 4

No 3.—*Estimate of Charges Transportation.*

Boat-hire on Maunds 21,239 at 27 rupees per 100 maunds	Bs.S.Rs.	5,734	8 6		
Hire of 20 palavars at 22 rupees each		440	0 0		
Allowance to ghaut mangee on 50 boats		50	0 0		
Cooley hire on 10,620 bags at 3 rupees per 100 bags		318	9 7		
Matts 4,000 at 4 rupees per 100		160	0 0		
Oil at 1 rupee per boat		50	0 0		
Burkundosses 55 at 10 rupees each		550	0 0		
Contingent way charges at 4 rupees per boat		200	0 0		
				7,503	2 1
Deduct batta 4-5th per cent.				329	9 2
Calcutta Sicca Rupees,				7,179	8 11

Extract Letter from the Board of Trade to the Governor-General in Council, 16th July 1819.

Letter from Board of Trade to Governor-General in Council, 16 July 1819.

7. The amount assumed by the Honourable the Court of Directors for the provision of their order for one thousand tons of sugar appearing from the estimate received from Benares to be inadequate to provide that quantity, we have allotted a further portion of the unappropriated amount on account of the silk investment of the present year, *viz.* Sicca Rupees 54,521 8 0, making the total amount applicable to the provision of sugar S.Rs. 2,61,418.

The

The Honourable the Court of Directors' Order for one thousand tons value, including all charges £24,000, or S.Rs.		2,06,896 8 0	Letter from Board of Trade to Governor-General in Council, 16 July 1819.
The amount assumed by the Honourable Court for the provision of sugar, being with reference to the estimate received from Benares inadequate to provide the quantity ordered, the Board appropriate a further portion of the unappropriated amount on account of the silk investment of the present year...		54,521 8 0	
Total amount applicable to the provision of sugar.....S.Rs.		2,61,418 0 0	
The estimate received from Benares for one thousand tons amounting to.....S.Rs.		2,38,100 0 0	
Add: Agent's commission .....S.Rs.	11,177 8 0		
Indian duties	5,589 0 0		
Suspense charges.....	4,590 8 0		
Export warehouse charges.....	1,961 0 0		
		23,318 0 0	
	S.Rs.	2,61,418 0 0	

EXTRACT Letter from the Board of Trade to the Governor-General in Council, 7th July 1820.

10. The Honourable Court's Order for the provision of two thousand tons of sugar, value including all charges was £48,000 or S.Rs. 4,13,793. But as it appeared from the estimate received from the Resident at Benares that the amount assumed by the Honourable Court for the above provision was inadequate to provide the quantity ordered, we appropriated the sum estimated by him of S.Rs. 5,18,930, exceeding the Court's allotment by S.Rs. 1,05,137. Letter from Board of Trade to Governor-General in Council, 7 July 1820.

The Honourable the Court of Directors' order for two thousand tons, value including all charges £48,000, or S.Rs. 4,13,793.

The estimate received from Benares for two thousand tons amounts to.....S.Rs.		4,75,000 0 0	
Add: Agent's commission.....S.Rs.	22,356 0 0		
Indian duties	11,178 0 0		
Suspense charges.....	7,046 0 0		
Export warehouse charges	3,350 0 0		
		43,930 0 0	
	S.Rs.	5,18,930 0 0	

EXTRACT Bengal Public Consultations, 10th March 1821.

Letter from the Commercial Resident at Benares to the Resident and Members of the Board of Trade, Fort-William.

Gentlemen :—I have had the honour to receive your Secretary's letter dated 9th June last, with an extract from a commercial general letter from the Honourable the Court of Directors, dated the 22d of December 1819, ordering 2,500 tons of sugar to be provided in the current year, and requiring the usual estimates for this branch of the public investment, which I beg herewith to transmit for the approbation of your Board; the average rate per factory maund being Calcutta S.Rs. 7 3 10½, inclusive of commission and Export Warehouse charges. Bengal Board of Trade Consultations, 10 March 1821.

I have, &c.

Benares Factory, 20th Feb. 1821. C. SWEEDLAND, Resident.

No. 1.—*Estimate of Sugar to be provided at Benares, and Mow and Azimghur Factories, in* 1821.

Benares Sugar.

	Mds. of 105 S.wt.		Factory Maunds.		Ca.S.Rs.	A.	P.
Cheenee, 26,549...at Bs.S.Rs. 10 per Md.	2,65,490	0 0	or 37,500	18 8, at 6 12 4½	...2,54,040	11	11
Azimghur Sugar.							
Cheenee, 26,549...at ..... do.	2,65,490	0 0	or 37,500	18 8, at ditto	...2,54,040	11	11
Maunds 53,098 of 105 S.wt.....	5,30,980	0 0	... 75,000	37 0	5,08,081	17	10
Deduct batta 4-5 per cent....	22,898	8 2	2,500 tons.				
Charges on sugar, bullock-hire, cooley-hire, charges on treasure and contingencies of every description, estimated.....					4,499	14	0
					5,12,581	5	10
Charges packing, as per estimate No. 2.				13,154 3 3			
Ditto transportation, as per do. No. 3.				17,428 6 11			
					30,582	10	2
Total cost and charges to the Presidency, at Ca.S.Rs. 7 3 10½ per maund, Ca.S.Rs...					5,43,164	0	0

Advances required immediately...Ca.S.Rs.	2,00,000	0	0
Balance of 1820 transferred.....	80,977	4	2
Ditto on the 15th April 1821	2,00,000	0	0
Ditto on the 15th May.....	62,186	11	10
Calcutta S.Rs.	5,43,164	0	0

Expected Dispatches.

1821, By 25th June, Factory maunds	30,000	0 0	tons	1,000	Ca.S.Rs.	2,15,000
25th August	30,000	0 0	do.	1,000	do.	2,15,000
25th September.....	15,000	37 0	seers	500	do.	1,13,164
Factory Maunds	75,000	37 0		2,500	Ca.S.Rs.	5,43,164

No. 2.—*Estimate of Charges Packing.*

Cloth bags 26,549, at 28 rupees per 100 bags .....Bs.S.Rs.	7,433	11	6
Gunny do. 26,549, at 15 do.	3,982	5	7
Cooly hire on maunds 53,098 at 8 annas per 100 maunds.....	265	7	10
Weighmen on do. at 4 do. do.	132	11	11
Mohurrers, 13 for 6 months, at 10 rupees each per month	780	0	0
Peons, 40 for do. at 3 do. do.	720	0	0
Marker on 26,549 bags, at 8 annas per 100 bags	132	11	11
Twine, sewing bags, marking ink, and petty charges	300	0	0
	13,747	0	9
Deduct batta 4-5th per cent.	592	13	6
Calcutta S.Rs.	13,154	3	3

No. 3.—*Estimate of Charges Transportation.*

Boat-hire on maunds 53,098, at 28 rupees per 100 maunds...Bs.S.Rs.	14,867	7	0
Hire of 25 pulwars, at 22 rupees each.....	550	0	0
Allowance to Ghaut Mangee on 100 boats	100	0	0
Cooley-hire on 26,549 bags, at 3 rupees per 100 bags	796	7	6
Matts, 10,000, at 4 do. do.	400	0	0
Oil, at 1 rupee per boat.....	100	0	0
Burkundosses, 100 at 10 rupees each	1,000	0	0
Contingent way-charges, at 4 rupees per boat	400	0	0
	18,213	14	6
Deduct batta 4-5 per cent.	785	7	7
Calcutta S.Rs.	17,428	6	11

EXTRACT Letter from Bengal Board of Trade to the Governor-General in Council, 30th June 1821.

Letter from Bengal Board of Trade to Governor-General in Council, 30 June 1821.

7. The Honourable Court's order is for 2,500 tons, valued by them, including all charges, at £65,000, or S.Rs. 5,60,345; but the estimate received from the Resident at Benares for the above provision of sugar amounts, including all charges, to S.Rs. 5,96,061, which exceeds the Court's allotment by S.Rs. 35,716.

The Honourable Court of Director's order for 2,500 tons value, including all charges £65,000, or S.Rs. 5,60,345.

Estimate from Benares.....Cal.S.Rs.		5,43,164
Add :—		
Agent's commission 25,404		
Indian duties 12,702		
Suspense charges 8,890		
Export Warehouse do. 5,901		
		52,897
Total cost of 2,500 tons of sugar.....S.Rs.		5,96,061

SECOND APPENDIX

TO

REPORT ON THE SUGAR TRADE.

CORRESPONDENCE between the HONOURABLE COURT of DIRECTORS and the GOVERNMENT in INDIA.

LETTERS TO BENGAL.

(Commercial.) Letter from the Court of Directors to the Governor General in Council, 27th March 1787.

Letters to Bengal Government.

Commercial, 27 March 1787.

Para. 263. Application having been made to us by Mr. Robert Heaven for permission to proceed to Bengal, to apply himself to the cultivation and improvement of sugar, cotton, and indigo, and being well satisfied with the qualifications of Mr. Heaven, who for thirteen years past has employed his talents in the culture of those valuable articles in the West-Indies, we have permitted him to proceed to your Presidency, and remain there five years, under the usual covenants and restrictions entered into by persons allowed to proceed to India to practise in the way of their profession, except as to trade, which part he is to be permitted to carry on only in the particular articles of indigo, sugar, and cotton of his own manufacture; and that, in common with every other person engaged in the same pursuits, without being granted any particular or exclusive privileges that may in any measure tend to a monopoly in those articles.

Mr. Heaven's covenants will be sent, a number in the packet.

(Commercial.) Letter to Bengal, 6th May 1791.

Commercial, 6 May 1791.

Para. 65. The sugar consigned by the Houghton has been put up to sale; and owing to some adventitious circumstances which affected the market, produced an extraordinary price. The quantity purchased at Benares by Mr. Lloyd sold from 90*s.* to 105*s.* the hundred-weight and averaged 96*s.*; while that furnished by the house of Cockerell and Co. sold only from 88*s.* 6*d.* to 92*s.*, averaging but 90*s.* It must not, however, be understood, that these prices were obtained from the article being of a quality proportionate to such price. Sugars of all kinds are at present considerably above their level, owing to the failures in the French West-India Islands, and the great demand, of course, for exportation.

66. We have put a quantity of this consignment into the hands of an eminent refiner, to ascertain its qualities, and we trust shall be able to transmit his report before the close of the season. The character given of it upon view is, that it has an admirable face, and will do to retail for domestic use; but it is doubtful how far it has a sufficient strength of grain to bear the process of refining. This will be determined by the result of the above-mentioned experiment.

67. There is a circumstance, however, that will operate considerably against its introduction as an article of commerce from Bengal to this country, which is the duties.

Letters to Bengal Government.

Commercial, 6 May 1791.

The duties payable on sugar are as follows:

	Duty. £	s.	d.	Drawback. £	s.	d.
Sugar refined, the hundred-weight.....	4	18	8	4	10	2
Brown and muscovado, not of the British plantations, the cwt.	1	7	2	1	5	2
White, not of the British plantations	2	5	6	2	1	10
Brown and muscovado, British plantation ...	0	12	4	0	12	4
White ditto.....	1	9	0	1	9	0
Sugar from any of the British colonies or plantations on the continent of America, upon the importation to be warehoused ...	0	0	3		—	
When taken out of such warehouse to be used in this kingdom.....	1	6	11		—	

It is in contemplation also to lay an additional duty of 2*s.* 8*d.* per cwt. on the brown and muscovado, which will make the West-India sugar 15*s.* the hundred-weight instead of 12*s.* 4*d.*

These are the duties paid by the merchants of this country on sugars falling under those descriptions: but as sugar from the East-Indies is not rated at any specific duty, it is considered as a manufactured article not otherwise particularly enumerated, and under such description becomes chargeable with £37. 16*s.* 3*d.* per cent. on the gross price at our sale. We have made an unsuccessful application to the Lords Commissioners of his Majesty's Treasury, requesting it may be fixed at the plantation duty. Unless, therefore, the Legislature shall see fit to make an alteration in this respect, there is but little prospect of the article being imported with any effect for home consumption. We think nevertheless it may become in demand for exportation, and that perhaps to no inconsiderable extent: you will, therefore, as we have before directed, lade such quantity as shall be requisite to fill up the chartered tonnage of our returning ships, provided it can be obtained at prices not materially exceeding that of your late consignment, and of the finest qualities.

68. We observe on the proceedings of our Board of Trade a statement and calculation of the first cost of the article at Benares, and the intermediate charges prior to its being shipped at Calcutta, in which the original purchase price is estimated at an average of Trissooly Rupees 5 12 the maund of 96 sicca-weight, whereas by the Houghton's invoice it is rated at C.Rs. 5, 8, 13, 2, 3, 7, say T. Rs. 5 9 the maund.

69. As the Trissooly rupee is only four per cent. better than the current, and the factory maund is inferior to that mentioned by Mr. Lloyd by thirty-two per cent., we are unable to reconcile the difference between the two rates, and without an explanation our calculations remain clouded with uncertainty.

70. The amount of Mr. Lloyd's parcel we find to be as follows:

First cost of 80 mds. 18 seers.....				Rs. 445	14	9
Benares zemindary duty.	Rs. 19	6	10			
Commission five per cent. on Rs 445 14 9	22	4	9			
Charges as per invoice	66	5	2			
				108	0	9
				Rs. 553	15	6
The sixteen casks, containing 64 24 4 furnished by Messrs. Cockerell, although the first cost, which is nearly at the same rate, amounts to only				Rs. 353	4	9
We find burthened with a sum very disproportionate to the other parcel, as there is an addition under the head of charges, without any further particulars or explanation, of				244	3	11
Making in the whole				Rs. 597	8	8
Mr. Lloyd's parcel of 80 mds. 18 seers comes invoiced at				Rs. 553	15	6
Messrs. Cockerell's of 64 mds. 24 seers 4 ch.				597	8	8

71. Upon

71. Upon a reference to the Consultations of the Board of Trade of the 15th June, 1790, we find the heavy charges upon Messrs. Cockerell and Co.'s parcel in some measure accounted for, by the circumstances stated in their letters recorded under that date, of some of the articles being repacked at the particular desire of Mr. Grant; but as the accounts therein mentioned do not appear on your records, we are unable to conjecture what part of those charges are applicable to future imports, or how far they refer only to the peculiar circumstances attending that consignment. In all new articles sent by way of experiment, you cannot be too minute in your descriptions or statements of particulars.

Letters to Bengal Government.
Commercial, 6 May 1791.

72. We would have a specimen of every description of sugar brought to your market sent home, in order to assist our judgment as to which may be best suited for the demand of this country.

92. Actuated by the same principles which led us to cherish the cultivation of indigo, and in hopes of the present undertaking being attended with similar success, we have resolved upon making an essay in sugar. To this end, we have entered into an agreement with Mr. John Paterson, a lieutenant on your establishment, who is represented as being perfectly conversant in the culture and management of the article, after the most approved method in practice in the West-Indies. The particulars are as follow:

HEADS *to form an Agreement between the Honourable East-India Company and Lieutenant Paterson for the Supply of the Article of Sugar.*

1. That the Company shall render Lieutenant Paterson every assistance, in procuring to him, his executors, administrators, or assigns, a tract of 600 bigas of land of 100 cubits each, in such part or parts of Bengal or Behar as may be most suitable to the culture of the sugar-cane, upon a lease of twelve years, to commence from the 1st January 1792, or from the time he may be put in possession of the same.

Mr. Paterson's Contract.

2. That such land shall be applied only as a sugar plantation, and shall, if possible, be in one connected spot, or if that is not procurable, in different parcels of not less than 1,500 bigas of 100 cubits each in each parcel.

3. That if the Company are in possession of any lands suitable for the purpose unoccupied, the same be leased to Lieutenant Paterson, free of rent during the said period of twelve years.

4. That if the lands he may wish are at present occupied, and the person in possession shall fully consent to give up the same, Lieutenant Paterson undertaking at his own expense to satisfy the renters for any cession that may be made in his favour, such lands shall be leased to him by the Government of Bengal, subject to the same rents only as were paid by the persons who formerly held the same.

5. That on the lands thus obtained he will undertake to establish a sugar plantation, and deliver exclusively to the Company, who agree to receive the same, subject to the exceptions hereafter named, the whole of the sugars produced therefrom during the period of the said lease.

6. That the sugars shall be of a quality equal to the present sample; for the better ascertaining of which, one-half the sample shall be retained at home under the seals of the Company and Lieutenant Paterson, or his agent, and the other be transmitted to the Company's agents in India.

7. That the Company shall be at liberty to refuse any sugars that are not equal to the sample, but shall have an option of purchasing the same at a reduced rate, in proportion as the article shall be deemed inferior to the standard sample, such rate to be ascertained by the judgment of indifferent persons, to be appointed by the Company and Lieutenant Paterson; and in case the Company shall refuse to receive them at the adjudged rate, that Lieutenant Paterson be permitted to ship them for Europe on his own account, on the payment of such freight as may be deemed reasonable.

8. As Lieutenant Paterson has engaged to deliver the sugar at a very low rate, and upon a sample of a superior quality, it is agreed by poth parties that the

above

Letters to Bengal Government.

Mr. Paterson's Contract.

above article shall be carried into execution upon the most liberal construction, namely, that if any sugars shall be deemed superior, and others not materially inferior to the sample, that a kind of general average shall be formed of the whole, and the prices be affixed with a due regard to equity.

9. That such of the sugars, the produce of Lieutenant Paterson's plantations, as shall be received on the Company's account, be exempted from all Government duties whatever; but if any shall be returned on Lieutenant Patterson's hands as unequal to sample, that the sugars so refused shall be subject to the usual duties.

10. That Lieutenant Paterson will deliver the sugars at the Company's export-warehouse at Calcutta, well put up in wooden packages, fit for conveyance to Europe, at seven sicca rupees eight annas the hundred-weight of 112 lb., free of all other expense whatever.

11. That the deliveries shall take place between the 15th August and 30th November in each year.

12. That payment shall be made for each parcel, within twenty days after the date of its delivery.

13. That the whole of the sugars produced on the lands before specified shall be delivered to the Company exclusively, under the penalty of four sicca rupees for every hundred-weight that shall be proved to have been disposed of to any other person or persons whatever, unless such sugars so disposed of shall have been previously refused by the Company.

14. That the Company shall not be bound to receive from Lieutenant Paterson any other sugars than what are bonâ-fide the produce of the said lands.

15. That to enable Lieutenant Paterson to perform his engagement abovementioned, the Company grant him permission to lade, free of freight, a quantity of mill-work and other apparatus necessary for carrying on his works, not exceeding twenty-five tons in the ensuing season, and fifteen tons in the season following.

16. That the Court also give him permission to take out three Europeans at his own expense, for the sole purpose of being employed in the sugar-works, and permit hereafter, during the term of this engagement, such further number to be sent out at his own expense, as his occasion shall require, so that they shall not exceed six to be employed at any one period.

17. That Lieutenant Paterson be not suffered to erect any gunge or bazar on the districts that may be so leased to him, other than what may be necessary for the immediate supply of the persons in his own employ, and if any such gunge or bazar shall be so erected, that the persons supplied therefrom shall not be subject to the imposition of any duty whatever, nor shall he pursue any measures which may interfere with the rights of the zemindars or renters in the districts where he may settle.

18. That the Europeans to be taken out be required to enter into covenants, by which the Government shall be empowered, if they shall see fit, to return them to England when they shall cease to be employed in Lieutenant Paterson's works.

19. That at the expiration of the lease the Company shall have an option of taking the buildings and implements in use in the said plantation at a fair valuation, to be affixed upon the same by the judgment of indifferent persons, and that if the Company shall decline to take them, Lieutenant Paterson be at liberty to dispose of the same in any way he may think fit, previous to his surrendering up his lease.

20. That Lieutenant Paterson be not permitted to make any assignment of the lands granted to him in consequence of this agreement, without the privity and consent of the Governor-General and Council of Bengal.

21. That the Company shall immediately give the needful directions to the Governor-General and Council at Bengal for carrying this agreement into execution, and also for affording Lieutenant Paterson every suitable and proper encouragement to render his undertaking successful.

Having

Having thus stated at large the terms and conditions upon which we have embarked in this concern, and provided, as far as we are able to foresee, against any contingency that may possibly arise in carrying it into effect, it remains only for us to add, that as improvements in cultivation and extension of commerce are at all times desirable objects of pursuit, and as it is sufficiently obvious that the most decided advantages must accrue to Bengal, in adding to the list of her export commodities an article of so general consumption as the one in question, we cannot entertain a doubt but every exertion and attention on your part will be manifested, to ensure, as far as may be, a successful issue to our views in this respect.

Letters to Bengal Government.

Commercial, 6th May 1791.

(Public.) LETTER to Bengal, 4th August 1791.

25. We have read Mr. Lambert's letter, referred to in the 96th paragraph of your letter of the 6th November 1790, upon the subject of the sugar and arrack manufacturers in Bengal; but as your final decision on this letter has not yet been reported to us, we have no directions to give you at present relative thereto.

Public, 4th August 1791.

(Commercial.) LETTER to Bengal, 25th April 1792.

1. In deliberating in what manner the articles of which the Company's investment from India are usually composed can be extended and improved, we naturally turned our thoughts to the introduction of such new commodities, as under suitable encouragement might afford a reasonable prospect of becoming advantageons objects of pursuit. In this respect sugar presented itself to our notice; and, that we may be enabled to form an adequate opinion relative to the importation of that article from India, and how far it is likely to become a profitable and permanent part of the investment, we hereby direct, upon the receipt hereof, you forthwith institute an inquiry into the past and present state of the culture of sugar in Bengal and the adjacent provinces, with a view particularly to ascertain what improvements have already been produced from the regulations that have hitherto taken place, and in what degree it is capable of being further extended, under the present or any other suitable encouragementt hat may be afforded. In the prosecution of this inquiry, each Collector must be called upon to furnish the best information he may be able to procure on all or any of the following points:

Commercial, 25th April 1792.

[For the queries to be addressed to the Collectors, see First Appendix, page 23.]

2 We further direct, that after you shall have obtained the information relative to these particulars, you take the whole into your deliberate consideration, and report to us your sentiments at large on this branch of commerce, for our final determination.

In the mean time, we direct that you furnish us from time to time with such information upon the subject as shall progressively arise in the course of this investigation, and particularly with as accurate an account as can be obtained of the quantity of sugar exported from Bengal, and to what places, between the 1st September 1790 to the latest period.

(Commercial.) LETTER to Bengal, 30th May 1792.

7. Paragraphs 26 and 27 of your letter of the 6th November 1790, advising that the Bombay Government have taken off the import duties on sugar manufactured in Bengal, will be replied to in the Revenue Department.

Commercial, 30th May 1792.

(Commercial.) LETTER to Bengal, 10th October 1792.

2. We are well pleased to notice the cautious manner in which you proceeded to carry into execution our orders of the 6th May 1791, respecting a supply of sugar. It shewed a becoming zeal for the Company's interests, and we are satisfied was eventually productive of a very good effect.

Commercial, 10th October 1792.

3. Of your consignments by the ships of the present season, only those by the Queen and Phœnix have yet come in the course of sale, the produce of which is as follows:—

Letters to Bengal Government.

Commercial, 10th October 1792.

Per Queen, sold 18th July 1792.

	Invoice No.		From			To			Average.			
Soonamooky.	...1 to	320.....	£5	1	6 to	£5	4	0.....	£5	3	2	per. cwt.
	321	428.....	5	3	6	5	4	0.....	5	3	7	
	429	445.....	—	—		—	—	.....	5	3	6	
	446	451.....	5	6	0	5	7	6.....	5	6	8	
	452	491.....	5	5	0	5	5	6.....	5	5	3	
	492	530.....	5	7	6	5	12	6.....	5	10	6	
Rungpore, 1st. sort.	1	689.....	5	5	0	5	9	0.....	5	7	11	
	690	743.....	5	1	0	5	7	6.....	5	3	4	
2d sort...	744	843.....	5	1	0	5	3	6.....	5	1	10	
Benares, 1st sort....	1	100.....	5	7	0	5	11	6.....	5	8	0	
2d sort...	101	240.....	5	0	6	5	4	0.....	5	1	8	

Per Phœnix, sold 4th Sept. 1792.

Benares, 1st sort. ...	91	300.....	5	12	0	5	13	6.....	5	12	8	
	301	600.....	5	12	0	5	13	6..	5	12	11	
	601	675.....	5	11	0	5	12	6.....	5	11	2	
2d sort...	1	59.....	5	8	0	5	10	0.....	5	9	3	
	60	90.....	5	8	0	5	10	0.....	5	9	0	
Purchased of Edw. Morris, for ready money			6	16	0	6	17	0.....	6	16	3	

4. We have, agreeably to the desire expressed in your letter of the 25th November 1791, caused samples of the sugar from each factory to be sent to three different refiners, for the purpose of having their respective qualities distinctly ascertained. They are now in a course of working; but we doubt whether the reports will be received in time to accompany the present dispatch. We nevertheless transmit a number in the packet for your present guidance, a few cursory observations that have been made by two of the houses; and shall, by the first conveyance that offers after their receipt, forward the reports at large.

5. In addition to what is contained in the papers above referred to, the refiners have verbally expressed a desire of being furnished with as minute a description as is capable of being obtained of the various processes the article undergoes, in its manufacture in each separate district, as such information will tend much to assist their judgment in applying and varying their operations, in such manner as shall best suit with the treatment the commodity may have undergone in its first stage of manufacture. You will, therefore, take such measures as you shall deem best adapted for procuring as speedily as possible the fullest information on this head, and transmit it by the earliest opportunity that shall occur.

6. From our advices of the two last seasons, you will have perceived how much we have at heart the successful introduction of this commodity into the several European markets; and we trust, as circumstances still continue favourable to our views in this respect, we shall not feel ourselves disappointed in the expectations we have formed, of Bengal being able not only to furnish at once some very considerable supplies, but that ultimately those supplies may be rendered equal to any quantity for which a vend can be found.

7. We rely, that on the receipt of our letter of the 25th April last, you took the needful measures for procuring, with all possible dispatch, the several particulars of information therein required, and that the result of your inquiries will have been forwarded in such way, as to reach us by the period therein mentioned.

8. Until we are in possession of your replies to those several points, we are unable to complete our arrangements of tonnage for this season; it being evident that the allotments for sugar must be regulated in conformity to the intelligence that shall be thereby afforded: but—as, from the liberal terms on which we have permitted individuals to lade goods on our shipping, it may reasonably be concluded that a very considerable quantity of tonnage will be occupied

occupied in this way, and considering also that a more than usual quantity of saltpetre will be wanted to recruit our stores, even should our hopes of vending an increased quantity fail of being realized, we have judged we might safely in the first instance take up six ships of about 800 tons each, in addition to the eight which we have estimated as necessary for the ordinary portion of our investment from your settlement. We, therefore, take this early opportunity of apprizing you, that fourteen ships, to a certainty, will be consigned you, to be laden entirely from your presidency; to which will be added a further number, in case the looked-for information respecting sugar should warrant an expectation of their being suppled with cargoes.

Letters to Bengal Government.
Commercial, 10th October 1792.

9. We were in hopes our views as to the establishment of a trade in sugar would have been much facilitated by Government consenting to place the consignments from the East on the same footing, in regard to duties, as those from the West-Indies.

10. An application to this purport was made to the Lords Commissioners of His Majesty's Treasury, in which their Lordships, for the present, have not seen it expedient to acquiesce. The article, therefore, as to duty, remains in the state we formerly represented.

11. In the other important charge that attaches to it, namely freight, we have been rather more fortunate, as you will perceive by the terms on which the ships Belmont and Earl Talbot were taken up in the last season. Whether any or what further reductions are capable of being effected, we are unable at present to ascertain; but should any be found practicable, we shall not lose sight of an object so desirable in itself, and on which the success of the article so materially depends.

(Commercial.) LETTER to Bengal, 25th January 1793.

77. As we are advised in the 45th paragraph of your letter of the 3d September last, of Mr. Paterson having relinquished his intention of proceeding to Benares for the purpose of establishing sugar-works in that province, any reply to the paragraphs 33 to 41 of your letter of the 27th April 1792 is unnecessary. We must, however, recommend it to you to afford Mr. Paterson every proper encouragement and assistance in the prosecution of his plan, advising us from time to time of the progress of the undertaking.

Commercial, 25th Jan. 1793.

(Commercial.) LETTER to Bengal, 25th June 1793.

120. Agreeably to the desire expressed in paragraphs 63 to 65 of your letter of the 25th November 1791, we have caused a quantity of the sugar from the several districts of Benares, Soonamooky, and Rungpoor, that was consigned by the Queen, to be sent to three different houses, for the purpose of ascertaining the quality upon refinement. Their reports are transmitted a number in the packet.

Commercial, 25th June 1793.

121. You will from these reports be enabled to judge of the relative quality, and to which kind the preference is due, in taking your measures for extending the cultivation. At present, however, the article goes off so readily at our sales, that we recommend your providing of every species as largely as you may be able.

122. We have chartered six additional ships direct for your Presidency, as also two by the way of South Wales, at such reduced rates of freight as, we trust, will be the means of introducing not only sugar, but many other articles into our future lists of investment which have hitherto been excluded; and from the extent of your purchases in sugar, aided by saltpetre and some gruff goods, as well as from the expectations we have formed of the quantities of goods which will be tendered on the part of individuals, we are in hopes you will be enabled to give them a full lading.

123. The sales of sugar since our letter of the 10th October last have been as follows:

Per

Letters to Bengal Government.

Commercial, 25th Jan. 1793.

Per Kent, sold 13th November 1792.

Including customs:	£.	s.	d.
Radnagore (chests 50) average per cwt.	5	1	0
Benares 1st sort (boxes 3)	6	1	4
Sooksagur (box 1)	4	17	3
Benares, 1st sort (bags 4)	5	0	6
Do. 2d sort (bags 3)	5	0	0
Do. 3d sort (bags 3)	4	15	0

Per Northumberland, sold at the same time.

Exclusive of customs:	£.	s.	d.
Radnagore (chests 10)	3	5	4
Benares bags 32)	3	7	7

124. Of the several assortments received by the ships of the present season we are not enabled yet to speak distinctly as to their qualities, the ships being but recently arrived; but from what we have seen of them from the samples forwarded in the packet, they seem generally good. The Soonamooky is, however, preferred to the others on account of the boldness of the grain.

126. It will tend much to facilitate our business at home, if the invoices of sugar, as likewise those of the indigo and drugs, were in future sent in books, to be called packing-books.

140. On a former occasion, we desired that the sugar might be sent home in in boxes, rather than bags. The result of further experience, however, leads us to give the preference to bags for the superior kinds, as the expense of chests and repacking will be avoided, and it will also stow more advantageously on board the ships; a considerable expense in labour at home will also be saved, and the Company be enabled to bring the sugar earlier to market.

141. On the Earl of Oxford we have shipped, for the information and guidance of our Board of Trade, a cask, containing samples of each species of sugar produced in the West-India Islands, as also a few loaves of sugar from Bengal, in its refined state.

(Commercial.) Letter to Bengal, 11th Dec. 1793.

Commercial, 11th Dec. 1793.

Para. 11. In respect to sugar, we have no means of forming any accurate judgment of the quantity you will be enabled to provide in the season 1794; but as you have given us some reason to hope that your purchases in 1793 may probably be carried as far as 4,300 tons; and as, in consequence of the demand which has arisen for this article at encouraging prices, we are led to conclude the cultivation will have been considerably extended, we think, notwithstanding the competition to be expected from individuals, we may venture to reckon upon the like quantity for the succeeding season.

(Commercial.) Letter to Bengal, 19th Feb. 1794.

Commercial, 19th Feb. 1794.

We transmit you herewith copy of a proposition that has been made to us on behalf of Captain Andrew Pringle, at Lucknow, to supply the Company with 1,000 tons of sugar, on the terms therein mentioned. Upon taking this proposition into consideration, from the earnest desire we have to give every encouragement to this new branch of commerce, we should have felt no difficulty in acceding thereto, in one or other of the modes suggested; but as we are uncertain how far the doing this might interfere with any measures which you may have adopted for making a provision of this article, or whether any objections may be thereto in a political point of view, we have determined to refer the said proposition to your consideration, not doubting that you will act therein for our best advantage.

(Commercial.) Letter to Bengal, 24th April 1794.

Commercial, 24th April 1794.

3. Mr. James Hanson Keene having represented to us that he is possessed of very extensive knowledge in the manufacturing of sugar, and requested our permission

permission to proceed to Bengal to apply himself in improving the qualities of the sugar produced in that country; and being satisfied respecting his qualifications, we have permitted him to proceed thither accordingly.

Letters to Bengal Government.

Commercial, 24th April 1794.

(Commercial.) LETTER to Bengal, 11th June 1794.

6. Being of opinion that it will be more advantageous to the Company to send the sugar on board in bags than other packages, we desire, that if you can make it convenient, the whole of the sugar be shipped in bags, except the necessary quantity which may be required in chests to floor the ships.

Commercial, 11th June 1794.

(Commercial.) LETTER to Bengal, 2d July 1794.

11. It is with pleasure we notice the very able and attentive manner in which our orders for a provision of sugar have, from time to time, been carried into effect. The complete detail of information that has been afforded, respecting the process of its culture and manufacture, shall be submitted to the refiners, to whom it cannot fail of proving highly acceptable, and perhaps not less useful. Should it be productive of any observations or remarks that may be material for your notice and future guidance, we shall not fail in making the needful communications. It may nevertheless be here necessary to remark that as the article goes off very readily at our sales, and we hear of no complaint in respect to quality, we have not thought it necessary to pursue the experiments of refining beyond what has already been noticed.

Commercial, 2d July 1794.

12. In the account sales which come a number in the packet, you will perceive the issue of your several consignments of the last season, and the degree of estimation in which each assortment is held. The price of sugar is getting down, and probably may yet be lower, from the produce of the late French West-India Islands that will be brought to this country in the ensuing and subsequent seasons. Yet, as we are satisfied that there is in general an increasing demand for the article, particularly among the Northern nations of Europe, where the progress of civilization has tended very considerably to the introduction of the luxuries of life, there can be no reason to fear the want of a market for any quantity that Bengal will be in a capacity to afford for some period. We shall therefore, at present, prescribe no limits to your consignments, but leave it to you to make them as ample as the state of your funds shall be found to admit; in the doing of which you will, of course, give a preference to those assortments which are found to be the most productive.

13. We receive with satisfaction the intelligence that the price in Calcutta begins to look downwards; and when the eagerness of competition shall have subsided, we flatter ourselves your purchases will be effected on terms more proportioned to the rates at which sugar has formerly been procurable; and we look to this with the more confidence, as we learn, from the accounts you have transmitted, that, even at these rates, it ranks as one of the most profitable articles of culture the country affords.

14. In respect to duties, as the Legislature has sanctioned the claim of the West-India merchants to a monopoly of the home market, in return for the restrictions their trade is in other respects subject to, we fear there is little reason to expect any very speedy alteration; but should any change of circumstances take place, under which our application for a reduction can be renewed with the least appearance of success, we shall not lose sight of so important an object.

15. On the head of freight, we are not without hope some relief may ultimately be effected, as well upon this as upon other gruff articles of our investment. We have been unremittingly attentive to the subject; but the present deranged situation of public affairs has proved highly unfavourable to our views. In a period of war, all maritime expences become unavoidably enhanced. We shall not, however, relax in our pursuit; and in some more tranquil period, we trust our exertions will be attended with a favourable issue.

16. Your proceedings in respect to Mr. Paterson meet our entire approbation; and as we find, after a variety of obstacles, he has at length fixed himself

Letters to Bengal Government.

in a situation favourable to his pursuits, we are in hopes he will pay due attention to the engagements he has entered into with us.

Commercial, 2d July 1794.

17. The several particulars of information you have transmitted respecting the imports, exports, and Calcutta prices of the commodity, are highly useful, and we hope will be regularly continued.

18. We enclose you, a number in the packet, the weekly average price of the commodity in this market, together with an account of the quantity imported and exported in the years 1792 and 1793.

40. The article of sugar-candy has produced little more than the duty, which while it continues, must operate as a prohibition. That by the Earl Talbot, which cost near double the other, was very white, but had a very particular taste, something like that of spermaceti, which was not the case with the rest. In other respects, this article was in pretty good condition. It will not answer as an article of sale.

(Commercial.) LETTER to Bengal, 6th August, 1794.

Commercial, 6th August 1794.

In consequence of a quantity of saltpetre having been destroyed by fire in the Company's warehouse, we strictly enjoin your Board of Trade to send home the largest investment of saltpetre they can command; and in case any difficulty should occur respecting tonnage for the same, we direct that the article of sugar may be curtailed, so as to admit a full compliance with the above-mentioned order.

(Revenue.) LETTER to Bengal, 15th April, 1795.

Revenue; 15th April 1795.

31. We approve your instructions to the Board of Revenue, of the 17th September, 1792, prohibiting any enhancement of the rent on sugar-cane lands.

(Commercial.) LETTER to Bengal, 15th April, 1795.

Commercial, 15th April 1795.

9. Paragraphs 45 and 46 of your letter of the 3d September, 1792, noticing that Mr. Paterson (sugar contractor) had relinquished his intention of establishing his manufactory in Benares, and had concluded an engagement with some ryots of Beerbhoom, but that a question had arisen of a nature referrable to the Revenue department, to which that part of the subject was accordingly transmitted; also paragraph 47, stating that, in order to comply with the Court's directions of sending home samples of all the kinds of sugar produced in Bengal, you have purchased about 106 maunds said to be manufactured under the superintendance of some Chinese,—need no reply.

10. We approve your having allowed the Commercial Residents five per cent. on the provision of sugar instead of two-and-a-half hitherto customary.

11. Your paragraph which mentions that Sir C. W. Blunt has been permitted to send home about ten hundred-weight of sugar for the purpose of experiment in refining, needs no reply.

38. We approve of your having directed the Revenue Board to issue orders to the Collectors, to consider the cultivation of sugar as an object of their peculiar attention, and to take every precaution in their power to prevent the landholders from making exactions on the riotts who may engage in this branch of agriculture.

39. We have perused with much attention the correspondence referred to in your 80th and 82d paragraphs, and stating a difference of opinion with the Board of Trade on the means best adapted to promote the increase of the produce of sugar and the welfare of the cultivators.

40. Although we cannot but admit that there is much force in the arguments made use of by the Board of Trade, as immediately applicable to the object then under consideration, yet, as we wish our concerns with the natives in the way of traffic, should upon all occasions be rendered as simple and free from any thing that may wear the least appearance of restraint, as the system of manufacturing

manufacturing operations that prevail in the country will admit; we approve of the proceedings respecting the mode of providing this article. Letters to Bengal Government.

41. We approve of your having appointed Mr. F. Horsley, a person of capacity and experience, inspector of the Company's sugar, with a salary of two hundred rupees per mensem. Commercial, 15th April 1795.

77. The memorial from Mr. William Fitzmaurice on the culture and manufacture of sugar has been received.

(Commercial.) Letter to Bengal, 6th May 1795.

10. Lieutenant Charles Maddison, on quitting His Majesty's service, has our permission to remain in India, and to engage in the culture and manufacture of sugar or indigo, upon his entering into the covenants usually executed by persons of that description, which we shall forward by the ship Marquis of Lansdown. Commercial, 6th May 1795.

(Commercial.) Letter to Bengal, 3d July 1795.

16. Upon reference to the account-sale of your last consignments of sugar, which are forwarded in the packet, you will observe that, owing to a reduction in the selling rates, combined with the heavy charge of war freight, the article, considered merely as a commercial speculation, has ceased to yield those direct advantages in the way of profit, which were reaped from your former provisions. Nevertheless, when we reflect upon the decided benefits that will accrue to our territorial possessions from its being rendered a staple article of export to the different European markets, we are not discouraged under circumstances which we trust will have only a temporary effect. To check the progress of the cultivation we consider would at this juncture be a measure of impolicy; but, on the other hand, we do not view the present as a fit period for extending it so rapidly, as otherwise we might be desirous of doing. Being, therefore, under an uncertainty as to the nature of the engagements you may be under for an ensuing year's provision, we mean not to confine your measures within the limits of any positive instructions, but leave you to act, in regard to sugar, as, all circumstances considered, you shall judge will eventually be the most for our interest and advantage. It may not, however, be improper to premise, that a decided preference should be given to the superior qualities, as being the best enabled to bear the charges attendant thereon. We forward in the packet some Observations of our Warehouse-keeper upon this article, which go to some inferior matters of detail, to which you will give every due attention. Commercial, 3d July 1795.

(Commercial.) Letter to Bengal, 8th July 1795.

7. We approve of your having authorized an additional supply of sugar, to the amount of 50,000 rupees, at Radnagore. Commercial, 8th July 1795.

83. Paragraphs 3 and 4 of your letter of the 8th March 1794, mention that the Board of Trade were decidedly of opinion it was not advisable to accept the proposals tendered by Mr. Paull, and they had been rejected accordingly; and in your 5th and 6th paragraphs you state, that at the recommendation of the Board of Trade, you have increased the salary of the sugar inspector to 500 rupees per mensem, and have required him to furnish that Board with any advice or assistance they may desire, in respect to coffee or other articles that may promise to become exports to Europe. Your proceedings on both occasions are approved.

(Commercial.) Letter to Bengal, 27th July 1796.

78. The motives by which you were guided, in affording Mr. Paterson the assistance referred to in the 24th paragraph of your letter of the 24th December 1794, are such as lead us to sanction the measure with our approbation. We cannot, however, avoid remarking that, in the performance of his engagements, Mr. Paterson does not appear to have distinguished himself with a warmth of zeal equal to our expectations. We trust, however, that being now embarked upon the undertaking, he will not furnish us with occasion to renew this remark. Commercial, 27th July 1796.

79. Your

Letters to Bengal Government.

Commercial, 27th July 1796.

79. Your several consignments of the last season have gone off rapidly, and at prices which, at moderate rates of freight, would have been sufficiently advantageous. You will perceive from an account which comes a number in the packet, the selling rates of the various descriptions of quality. : The khaur seems to have produced better prices, in proportion, than the other kinds; yet how far, under any settled system of trade, it would retain this advantage, must remain for determination. Referring to our letter of the 3d July 1795, for our general ideas upon this trade, we have only here to add, that we see no reason to change the opinion there stated, other than as the commodity may be affected by the reduced price of the freight at which you have been enabled to procure ships in Bengal. The quantity imported from the British plantations in the last year appears to be considerably less than in either of the two preceding seasons, and, from the continued deranged state of the islands, there seems no cause to look for any considerable variation in the state of this trade; any quantity, therefore, that you can send will find a ready sale. We are sorry to learn the extent of the cultivation does not seem to keep pace with the demand, and could wish some means to be devised for affording such assistance to the riotts as they may appear to require.

(Commercial.) LETTER to Bengal, 5th August 1796.

Commercial, 5th August 1796.

10. Under the circumstances stated in paragraph 24 of your letter of 24th November 1794, we do not disapprove of your advancing to Mr. Paterson Rs. 25,000, to enable him to fulfil his engagement with the Company, notwithstanding our order of May 1779, prohibiting the loan of the Company's money to individuals.

(Commercial.) LETTER to Bengal, 17th February 1797.

Commercial, 17th Feb. 1797.

3. It appears from the advices recently received by the Dart, that owing to an insufficiency of funds, the Board of Trade calculate on a provision of only 3,100 tons of sugar for 1797, a quantity far short of former years' consignments, or of what would find a ready vend at our sales. It is with much satisfaction we remark the commodity continues to maintain its reputation, and, under the reductions of freight that have been so recently effected, there can be no doubt of its becoming an advantageous and permanent article of import. It is particularly desirable on many accounts, in the present situation of affairs, that your purchases should be extended as far as circumstances will admit, without depreciating the quality or enhancing the prime cost; and to enable you to effect this with the more facility, we permit of your raising such funds as may be necessary for this purpose, either by drawing bills upon us, or in such other way as you may judge equally conducive to the desired end.

(Commercial.) LETTER to Bengal, 4th October 1797.

Commercial, 4th October 1797.

14. Our letter of the 17th February last will have put you in possession of our orders respecting sugar; we have here only to add, that you will find, a number in the packet, the catalogues and selling prices of your several consignments, so far as they have been hitherto disposed of; as also the sentiments of an eminent dealer, with respect to the estimation of the several degrees of quality.

(Commercial.) LETTER to Bengal, 5th December 1798.

Commercial, 5th Dec. 1798.

11. Lieutenant-General Giles Stibbert having addressed a letter to us, stating the losses he has sustained in consequence of his co-partnership with Lieutenant John Paterson, who entered into an engagement with the Company to raise a plantation of sugar-canes and establish a manufacture of sugar in Bengal, and praying us to remit the debt of S. Rs. 25,000, advanced to Lieutenant Paterson by your Government on bond, and of which payment is now claimed of him by Messrs. Frushard and Laprimaudaye, amounting, with interest to the 11th September 1797, to £3,640. 12*s.* 6*d.*; and having referred to the several papers on the subject, it is evident that the undertaking of Lieutenant Paterson was to be carried on entirely at his own risk and expense; that the bond in question is for money actually advanced by your Government; and it not appearing that the

the Company have failed in any of their engagements with Lieutenant Paterson, we have resolved not to comply with General Stibbert's request, and direct that, immediately on receipt hereof, you demand of Messrs. Frushard and Co. payment of the bond for S. Rs. 25,000; but as this money was actually embarked in an undertaking that, if it had succeeded, would have been ultimately beneficial to the Company, we direct that no interest be taken for the same, provided the money be forthwith paid.

Letters to Bengal Government.

Commercial, 5th Dec. 1798.

(Commercial.) LETTER to Bengal, 29th May 1799.

20. Our importations of sugar continue to go off rapidly; nor do the prices seem in the least to abate. We forward the account sales of your consignments that have been received in 1797 and 1798, by which you will notice the profits it has yielded. We directed that the preference in your future consignments might be given to the sort termed chenee, provided it was practicable to get the khaur worked into chenee; but if by foregoing the purchase of khaur you are unable to add to the quantity of chenee, you will perceive the khaur is too advantageous to be abandoned altogether. With this explanation we must leave you to regulate yourselves, with regard to quantities, in conformity to your ability in respect to resources.

Commercial, 29th May 1799.

(Public.) LETTER to Bengal, 5th June 1799.

60. You will continue from time to time to acquaint us with the progress that may be made in the cultivation of the nutmeg, clove, and other plants; likewise of the teak tree and china sugar-cane.

Public, 5th June 1799.

(Commercial.) LETTER to Bengal, 7th May 1800.

24. The market for sugar is and has been for some time past heavy. The Legislature, for the purpose of affording it relief, have repealed the duty of 6*s.* 6*d.* per hundred-weight on East-India sugar, which by an act Geo. 3. was directed to be paid upon its exportation. We have directed that your future consignments might be made of the superior kind of chenee, as that sort was better calculated to bear the burthen of freight.

Commercial, 7th May 1800.

25. We forward a number in the packet, a sale book of the quantities disposed of on the 18th and 21st April 1800, with the prices at which each lot was sold, by which you will observe the degree of estimation in which each sort is held, and from thence judge of the qualities that are most likely to yield advantage.

(Commercial.) LETTER to Bengal, 28th August 1800.

66. As far as relates to the supply of our settlements with rum, we approve of the extension of the Mizapore distillery, referred to in paragraph 41 of your letter of the 31st December 1798. We fear, however, there is but little prospect of its ever becoming a profitable consignment to this country. The freight will at all times be a bar to its entering into a competition with rum from the West-Indies; but a further obstacle at present operates against its being brought into use in this country, as the officers of the Crown class it among the manufactured commodities not enumerated, by which it becomes chargeable with £71. 4*s.* 4*d.* on every £100 value at the sales, besides an excise duty of 8*s.* 5*d.* per gallon. West-India rum in ordinary periods seldom produces more than 2*s.* to 2*s.* 8*d.* per gallon, exclusive of duties.

Commercial, 28th August 1800.

67. On reference to the catalogues of sales which have from time to time been forwarded, you will perceive the degree of estimation in which the sugar manufactured at Mirzapore by Mr. Carden is held, compared with your other consignments. From this result we are led to concur in opinion with the Board of Trade, that it can never answer to persist in purchasing canes, for the purpose of making them into sugar.

(Commercial.) LETTER to Bengal, 15th April 1801.

14. It having been represented to us that Mr. Keene, residing at your presidency, is well acquainted with the manufacture of sugar, we direct that upon the

Commercial, 15th April 1801.

Letters to Bengal Government.

the death, removal, or resignation of Mr. Horsley, Mr. Keene be appointed to the office of sugar inspector.

Commercial, 15th April 1801.

(Commercial.) LETTER to Bengal, 30th June 1802.

Commercial, 30th Jan. 1802.

87. The market for sugars has been long dull and heavy. In January 1801 the average price of West-India sugar (duties included) was, per hundred-weight, 85*s.* 6*d.* In January 1802, the average was only 43*s.* 10*d.*, exclusive of duties, to which add the duty of 20*s.*, and the comparative price will be equal to 63*s.* 10*d.* In May 1802, the average was only 33*s.* 5*d.*, which, with the duty, is equal to 53*s.* 5*d.*

88. The prices of the sugars at our own sales have also fallen off in similar proportion.

89. This declension has been produced by various concurring causes, the principal of which we consider to be the increased importations from the West-Indies, particularly in the last year.

90. It appears from authentic documents, to which we have had access, that in the ten years from 1788 to 1797 inclusive, the import of sugar from the British plantations was on an average, per annum, ... Tons 103,000
In 1798 it increased to 118,000
In 1799 148,000
In 1800 it was 137,000
In 1801 it extended to 186,000

91. In the ten years from 1788 to 1797, above alluded to, the average annual quantities exported were 12,232 tons of raw, and 8,890 tons of refined; and, allowing that two tons of raw sugar are required to produce one ton in a state of refinement for exportation, the exports may be rated at 30,012 tons, which deducted from the quantity imported, leaves for the home consumption 72,988 tons. In the four subsequent years the exports were, in

Years.	Raw: Exported. Tons.		Refined. Exported: Tons.		Equal, reckoning 2 tons of raw for 1 of refined. Tons.		Left for home consumption. Tons.
1798	26,620	.....	12,415	.....	51,450	.....	66,550
1799	11,928	.....	6,122	.....	24,172	.....	123,828
1800	30,764	.....	19,847	.....	70,458	.....	66,542
1801	20,229	.....	16,668	.....	53,565	.....	132,435

Average ..... Tons 97,333

92. Thus it appears that, although the quantity exported has been materially increased, it has not kept pace with the increased import, which in a great measure accounts for the market being so depressed.

93. Under those circumstances, no inconvenience will be sustained from your inability to advance any funds for the provision of sugar in the ensuing year; and as no opportunity has yet offered since the return of peace to ascertain what turn this branch of trade will eventually take, we are of opinion your purchases may remain suspended until you receive our directions for renewing them. We do not however mean these instructions to be so far implicitly acted upon, as to deprive you of the latitude of departing therefrom in any case of exigency, with regard to the provision of gruff goods, that you conceive may warrant you in so doing, taking care that your consignments, if any, be made of the finer sorts, according to the directions that were transmitted in the year 1799.

(Commercial.) LETTER to Bengal, 1st June 1803.

Commercial, 1st June 1803.

2. To form proper assorted cargoes for eight or nine regular ships, a very considerable portion of dead weight will be required. This may be effected by a provision of saltpetre, to the extent of 60,000 or 70,000 bags, and the deficiency may be made up with sugar, taking care that your consignments are limited to the finer assortments, agreeably to the directions contained in former instructions regarding this article.

(Commercial.)

(Commercial.) LETTER to Bengal, 24th August 1804.

Letters to Bengal Government.

6. As we consider saltpetre alone will not furnish a sufficient portion of dead weight for our returning shipping, we know of no commodity more eligible for this purpose than sugar. We therefore leave it to your discretion to provide such a quantity as you may think necessary, taking care that it consists only of the finer assortments, as before advised.

Commercial, 24th August 1804.

(Commercial.) LETTER to Bengal, 31st August 1804.

8. We approve of the abolition of the office of inspector of sugar: the execution of the duty very properly falls within the business of the officers of the Export-Warehouse.

Commercial, 31st August 1804.

(Commercial.) LETTER to Bengal, 18th January 1805.

3. We conceive that you will be able to provide dead weight for all the ships consigned to Coast and Bay, a considerable part of which must be sugar of the finer assortments.

Commercial, 18th Jan. 1805.

(Commercial.) LETTER to Bengal, 5th June 1805.

10. As we continue of opinion, that the quantity of sixty thousand bags of saltpetre per annum should not be exceeded, the deficiency of dead weight must be made up with sugar of the finer assortments; and our Board of Trade will apportion the allotment to the factories where the produce is cheapest compared with the prices obtained at our sales, bearing in mind that the finest assortments are best able to bear the charge of freight.

Commercial, 5th June 1805.

(Commercial.) LETTER to Bengal, 23d October 1805.

8. Having inspected a sample of the sugar provided at the factory of Mow and Azimghur in 1804 it appears to be of very good quality (except as to grain), and afforded at a reasonable price. We therefore direct that, should our Governor-General in Council be of opinion there may be a want of goods in the season 1806-7, beyond the cotton and saltpetre, as much sugar of the provision of this factory be laden as circumstances may render expedient.

Commercial, 23d Oct. 1805.

(Public.—Ceded Provinces.) LETTER to Bengal, 12th February 1806.

15. Paragraph 28 of your public letter of the 31st December 1804, advising us that an experiment of the late Superintendent to improve the manufacture of sugar in Rohilcund has proved successful, is transferred to the Commercial department.

Public, Ceded Provinces, 12th Feb. 1806.

(Separate: Salt, Opium and Customs.) LETTER to Bengal, 13th May 1807.

18. Having duly considered all the proceedings of the Bombay Government on the subject of the town-duties collected at that settlement, we concur in opinion with you respecting the inexpediency of continuing the levy of those duties, and therefore approve of your having recommended their abolition to the Government of Bombay. We have been advised from thence of your recommendation having been adopted, and that the abolition was to take place from the 30th April 1806.

Separate, 13th May 1807.

(Commercial.) LETTER to Bengal, 29th May 1807.

56. The chests of sugar which were manufactured under the care of Mr. Brown, the late superintendent of investment in Rohilcund, were of very unequal quality, which we are disposed to attribute to the small scale on which the experiment was made; and from the same circumstance, the weight of charges necessarily enhanced the price so much, that no satisfactory conclusion can be drawn therefrom, as to the expense of providing a large quantity.

Commercial, 29th May 1807.

Letters to Bengal Government.

(Commercial.) LETTER to Bengal, 19th August 1807.

Commercial, 19th Aug. 1807.

51. In our indents of late years we have regularly advised our Governor-General in Council, that such quantity of sugar may be provided, as, with the regular investment of saltpetre, should be sufficient to furnish dead weight for all the ships, which we might dispatch to the several Presidencies of India to be returned with cargoes to Europe; and it is proper that a provision of sugar should be made for this purpose in the year 1808. But as such supply of sugar for dead weight is attended with a considerable loss, it is indispensably necessary that none but sugars of the finer assortments should be laden, as has been pointed out in our letters of various dates, commencing with the year 1798.

52. In the margin* we have quoted the prices at which great part of the last importation of sugar has been sold; from which it will appear that our injunctions as to quality have not been so fully attended to as the case requires, some of the sugar not having obtained a price more than sufficient to defray the expense of freight and charges. For more particular information we transmit in the packet a catalogue of the whole of the last sale, with the prices affixed, which our Board of Trade will take into consideration when they deliberate upon the allotments to be made to the sugar factories for the approaching season.

(Commercial.) LETTER to Bengal, 26th February 1808.

Commercial, 26th Feb. 1808

45. Having agreed with Government to furnish them in the present and ensuing year with 6,000 tons of saltpetre, in addition to the annual quantity supplied agreeably to Act of Parliament, we direct you, immediately on receipt of this, to take measures for the provision of one hundred thousand bags of saltpetre, in addition to the quantity ordered in our letter of the 19th August 1807, with as much dispatch as the ability of the factories will permit. We further direct, that no sugar be sent to England to interfere with the sending of the saltpetre.

(Separate: Salt, Opium and Customs.) LETTER to Bengal, 3d August 1808.

Separate, 3d August 1808.

At Bombay, town-duty was abolished by Court's order of 13th May 1807, but the execution of that order is to be suspended until the subject is further considered.

(Commercial.) LETTER to Bengal, 30th June 1809.

Commercial, 30th June 1809.

13. The extent of the order for saltpetre will probably render it unnecessary to ship any sugar, either in the next season or in that immediately succeeding. We think it right, however, to communicate to you at this time, that the quality of the sugar from several of the factories has fallen off, whilst at the same time the prime cost has rather advanced. We think it necessary to remark in particular, that the Benares, and Mow and Azimghur sugars have become considerably inferior to their former quality. As it will be necessary hereafter to recur to the supply of sugar for dead weight, we are of opinion that a part of the provision may be committed to the Commercial Resident to be appointed to the new cotton station (Etayah), unless you shall establish that residency so far to the north-west as to be beyond the districts where sugar is cultivated to advantage.

(Commercial.) LETTER to Bengal, 16th January 1810.

Commercial, 16th Jan. 1810.

1. In the 29th paragraph of our letter in this department of the 29th September last, we had the melancholy duty of acquainting you with the calamities which had befallen our ships in the last few months, during which short period not less than eight regular and three extra ships had been lost, or were missing, under circumstances that filled our mind with great apprehensions for their fate.

20. Of

	per Cwt.
* Rungpore Chenee	30*s.* 6*d.*
Benares Chenee	27*s.* to 34*s* 6*d.*
Santipore Chenee	30*s.* 6*d.* to 34*s.*
Bishenpore	33*s.* 6*d.* to 37*s.* 6*d.*
Rungpore	25*s.* to 29*s.*

	per Cwt.
Mow and Azimgur	54*s.* 6*d.* to 55*s.* 6*d.*
Do.	39*s.* 6*d.*
Do.	46*s.*
Benares Chenee	43*s.* 6*d.*
Do.	35*s.*
Do.	61*s.*

Letters to Bengal Government.

20. Of saltpetre, we have lost fifty thousand bags; and as our engagements with the public remain the same, it becomes necessary to provide the further quantity of fifty thousand bags.

Commercial, 16th Jan. 1810.

21. Of sugar, none can be necessary, the ships not sufficing to bring any greater quantity of dead weight than the saltpetre will furnish.

(Public.) LETTER to Bengal, 23d February 1810.

Public, 23d Feb. 1810.

12. It having been suggested to us, that it would benefit the cattle in our island of St. Helena, during the periods in which there may be a want of grass, were a small quantity of molasses or sugar to be mixed with their food, we have transmitted to our Governor in Council at that place a cask of molasses, for the purpose of experiment; and it is our desire that you should consign to them two tons of jaggry for the like purpose.

(Commercial.) LETTER to Bengal, 20th June 1810.

Commercial, 20th June 1810.

77. It is only in a time of peace that the importation of sugar from India can become considerable, the high freight, even of Indian or extra ships, from that distant country, during war, giving the sugar of the West-Indies a decided advantage; and upon general considerations, we are not desirous of carrying on trade in this commodity to any extent, beyond the necessity of ballasting our ships.

(Commercial.) LETTER to Bengal, 29th June 1810.

Commercial, 29th June 1810.

2. As the quantity of dead weight which you will have to consign to us in the approaching shipping season, 1810-11, will probably exceed the tonnage which will be at your disposal, it becomes necessary that you should take especial care that all the ships to be returned to us from Madras and Bombay should have a supply of dead weight, so as to supersede the necessity of lading stones or other ballast. Experience has shewn that saltpetre or sugar may be sent round from your Presidency to Bombay, at the moderate rate of two rupees and a half or three rupees a bag; it is therefore proper that a supply of saltpetre should be kept constantly in store at that Presidency for eventual consignment to Europe. Should you find it necessary or convenient to transmit to us any sugar, it must exclusively consist of the finest and whitest assortments, such as the Mow and Azimghur; and if any of the lower quality should have been provided in the usual course of your investment, it may be sold in Calcutta, if it can be so disposed of without loss.

(Commercial.) LETTER to Bengal, 4th January 1811.

Commercial, 4th Jan. 1811.

23. The sugar which you may have on hand may be sold in India, and we trust a considerable profit will be derived from a consignment thereof to Bombay. With respect to continuing a provision of this article in the year 1812, you will instruct our Board of Trade to enter into the immediate consideration of the quantity of dead weight which may be probably required in that year; the indent for saltpetre for our sales, and the annual delivery to Government, being estimated as formerly at about sixty thousand bags, after the contracts for ten thousand tons, and for two thousand five hundred tons for His Majesty's service, shall have been fulfilled.

(Commercial.) LETTER to Bengal, 11th September 1811.

Commercial, 11th Sept. 1811.

4. With respect to sugar, we shall briefly refer you to the resolutions of the General Court of Proprietors, of the 15th March 1792, at which it was resolved that the then enormous price of that commodity was owing to the annual importation being very unequal to the increased consumption in Great Britain, and the demand for exportation; and that the East-India Company having been called upon by the public to assist them, the General Court were of opinion, that they could speedily and permanently supply a considerable quantity of sugar for the relief of Great Britain, and that unless the Company did so, the Indian sugar trade, and the carrying trade attached to it, must inevitably be driven

Letters to Bengal Government.

into the hands of foreigners, who had sent and were sending ships from various ports of Europe and America to India, to purchase that article.

Commercial, 11th Sept. 1811.

5. We have now to observe, that the reasons which induced the Company to engage in this trade have ceased; and, therefore, it is expedient, as well on general principles as on account of the loss which has attended it, that sugar should not continue to form part of the Company's investment, except for such quantity, and that of the finer asortments only, as may be wanted, in addition to the annual provision of saltpetre, for supplying our ships, regular and extra, with the quantity of dead weight which may have been stipulated for them by special order, or by the terms of the respective charter-parties and conditions of service, to which quantities the ships must in future be necessarily restricted.

20. Of sugar we do not propose that any should be laden for Europe in 1812.

(Commercial.) LETTER to Bengal, 1st May 1812.

Commercial, 1st May 1812.

24. We again repeat, that whatever quantity of sugar you may be under the necessity of lading as dead weight, must be of the finer assortments only, as being best able to bear the rate of freight, to which it is equally liable whether coarse or fine.

(Commercial.) LETTER to Bengal, 2d June 1812.

Commercial, 2d June 1812.

The Court ordered 2,750 tons of sugar to be provided in 1813 for the extra ships; the cost is estimated at S.Rs. 6,87,550 or £80,208.

(Commercial.) LETTER to Bengal, 26th June 1812.

Commercial, 26th June 1812.

34. You will have observed, in our separate commercial letter dated 2d June 1812, that we have estimated that the quantity of two thousand seven hundred and fifty tons of sugar will be required to be provided in the year 1813, to constitute dead weight for the extra ships of the Indian season 1813-14. This quantity of sugar, or whatever the quantity may be which you may require after providing all the saltpetre for which we have indented, must be manufactured exclusively at those factories which afford sugar of strong grain, and of clear and white colour: no soft or paste-like sugar may be sent upon any account. We desire that the most pointed attention be given to these instructions, as their neglect may cause a heavy loss to fall upon the Company.

(Commercial.) LETTER to Bengal, 9th July 1812.

Commercial, 9th July 1812.

12. In our separate letter of the 2d ultimo (June 1812), in this department, we have noticed, that about 2750 tons of sugar would be required, in addition to the saltpetre for dead weight in the Indian season 1813-14.

13. Since the date of that letter, we have seen it proper to direct, that a further sum be invested in Bengal piece-goods, than the twenty lacks of sicca-rupees therein contemplated, which will of course require additional tonnage to be engaged to transport the same to Europe, and upon which subject you shall be duly advised.

14. We therefore desire, that the further quantity of one thousand tons of strong-grained white sugar be provided in the year 1813, and should it not be ultimately required for consignment to England, it can be sold to advantage at Bombay or elsewhere in India.

(Commercial.) LETTER to Bengal, 18th December 1812.

Commercial, 18th Dec. 1812.

11. It will be desirable that the 2,500 tons of saltpetre now required, should be forthwith manufactured and sent to London; any excess of sugar which you may have on hand in consequence thereof, may be kept in store for future consignment to England, or may be sold in Calcutta or at Bombay, and the proceeds laid out in further investments of sugar or other goods for the succeeding season.

(Revenue.) LETTER to Bengal, 29th January 1813.

Letters to Bengal Government.

13. You will inform us whether the advances of tuccavy in Moradabad and Etawah, for the cultivation of sugar-cane, amounting to rupees 1,24,925, have been repaid, and whether the cultivation of the sugar-cane in these districts has received the expected extension.

Revenue, 29th Jan. 1813.

(Commercial.) LETTER to Bengal, 18th February 1814.

4. The current price of Bengal sugar of good quality, on the 8th February 1814, is at this time one hundred shillings per hundred-weight.

Commercial, 18th Feb. 1814.

(Commercial.) LETTER to Bengal, 3d June 1814.

127. We should be desirous of having some consignment of sugar, by way of keeping this article in our investment; but the lading of it on board the ships must be secondary to the transmission of saltpetre. In our present view of the tonnage which may be taken up by us in the approaching season, 1814, we consider that dead weight of sugar and saltpetre will be required to be provided in India in the year 1815, to the extent of about six thousand tons; but we by no means desire to limit the provision of saltpetre at any less quantity than what will be required by the above statements to meet our engagements with the Board, viz. 10,000 tons, and to supply our sales. You will nevertheless provide, in the year 1815, one thousand tons of sugar of the best and fairest quality, as formerly pointed out, which, with any surplus of saltpetre, may be consigned to Europe, either in British or Indian ships, as we may hereafter direct.

Commercial, 3d June 1814.

(Commercial.) Letter to Bengal, 22d July 1814.

30. Our governments of Madras and Bombay will not fail to take every opportunity of advising the Governor-General and Council of the current state of their prospects of a sufficient quantity of goods to load the ships which are proposed to be consigned to them respectively. The Governor-General and Council will take early measures for providing a sufficiency of dead weight for all the ships to be laden home from India, and a further supply of about eight thousand bags of sugar, to be retained in store for future disposal.

Commercial, 22d July 1814.

(Commercial.) LETTER to Bengal, 28th December 1814.

By the licensed ship, Regent, we have received from the island of Java 3,240 bags of sugar, consigned to us, the freight to be paid at the rate of £18 per ton. We have informed the Lieutenant-Governor of our surprise at the high rate of freight which he has engaged shall be paid for the sugar. We have again directed the Lieutenant-Governor to apprize you of the nature and extent of any of the Company's goods which he may have in store, fit for the Europe market.

Commercial, 28th Dec. 1814.

(Commercial.) LETTER to Bengal, 16th June 1815.

12. The Court ordered 1,000 tons of sugar, of the estimated value of £24,000., to be provided in 1816.

Commercial, 16th June 1815.

(Commercial.) LETTER to Bengal, 8th May 1816.

9. We have permitted Mr. John Walker to proceed to India under free merchant's indentures, with a view to introduce improvements in the cultivation and manufacture of sugar, it being clearly understood, that we do not afford him either a loan of money, or otherwise take part in his speculation.

Commercial, 8th May 1816.

(Commercial.) LETTER to Bengal, 12th June 1816.

30. The Court ordered 1,000 tons of Bengal sugar to be provided in1817-18, estimate value £24,000.

Commercial, 12th June 1816.

(Commercial.)

Letters to Bengal Government.

(Commercial.) LETTER to Bengal, 7th May 1817.

Commercial, 7th May 1817.

12. The Court ordered 1,000 tons of Bengal sugar, of the estimated value of £24,000, to be provided in 1818-19.

(Commercial.) LETTER to Bengal, 3d June 1818.

Commercial, 3d June 1818.

7. The Court ordered 1,000 tons of Bengal sugar, estimated value £24,000, to be provided in 1819-20.

(Commercial.) LETTER to Bengal, 18th May 1819.

Commercial, 18th May 1819.

7. The Court ordered 2,000 tons of Bengal sugar, value about £48,000, to be provided in 1820-21.

(Commercial.) LETTER to Bengal, 22d December 1819.

Commercial, 22d Dec. 1819.

6. You will instruct the Board of Trade to take timely measures for the provision of two thousand five hundred tons of sugar, dry, clean, and white; and in all respects of the best quality, of which the factory of Benares furnishes by far the best. One thousand tons of this sugar must be sent round to Bombay, so as to arrive there in the month of August 1821; the remainder will be applicable to the service of your and the Madras presidency, in your shipping season, 1821-22.

(Commercial.) LETTER to Bengal, 25th February 1820.

Commercial, 25th Feb. 1820.

17. An investment of 2,000 tons at the least, of sugar, will have been made, in conformity with our orders, and the invoice value may be estimated as per minute of Board of Trade, of 16th July 1819, at about £30. per ton; but of this quality three hundred tons will probably be sent round to Bombay, in pursuance of our instructions of the 1st September 1819.

(Commercial.) LETTER to Bengal, 26th April 1820.

Commercial, 26th April 1820.

6. The Court ordered 2,500 tons of Bengal sugar to be provided in 1821-22, value about £65,000.

(Commercial.) LETTER to Bengal, 29th November 1820.

Commercial, 29th Nov. 1820.

48. A considerable loss has been sustained by wastage of the sugar imported on the ships which arrived from India in 1818 and 1819. We have not been able to recover from the owners the value of the deficiency, as it does not appear to have been caused by sea-water, but by a defect in the process of manufacture. A statement by our Freight-Accountant, shewing the deficiency on each ship, is transmitted in the packet, for the information of the Board of Trade, who must take precautions to prevent any sugar being received that is wet or liable to excessive sweating during the voyage to London.

(Commercial.) LETTER to Bengal, 3d January 1821.

Commercial, 3d Jan. 1821.

16. The Madras piece goods and cinnamon, with pepper, amounting, as shewn above, to 1,349 tons, will certainly be laden upon ships not carrying iron kintledge, and we propose to allot to that branch of the service an equal tonnage of sugar or saltpetre, say 1,349 tons, which will be put on board at Calcutta, to which presidency all the ships will be consigned, either direct or otherwise, as circumstances shall make expedient.

19. We have directed our Bombay Government to send home upon hired tonnage any piece goods and coffee which they may procure, and to keep in store any pepper and saltpetre, and to advise us of their proceedings by all opportunities; but if sugar be in store at Bombay, our Governor in Council will cause it to be disposed of by public sale, provided the invoice cost, with freight and charges, shall be obtainable.

Letters to Bengal Government.

(Commercial.) LETTER to Bengal, 9th February 1821.

Commercial, 9th Feb. 1821.

14. You will instruct the Board of Trade to take timely measures for the provision of two thousand tons of sugar, dry, clean, and white, and in all respects of good quality, of which the factory of Benares furnishes by far the best; but you will not send round any part thereof, nor of the commercial saltpetre, to Bombay, but upon receipt of our orders to that effect.

(Commercial.) LETTER to Bengal, 16th May 1821.

Commercial, 16th May 1821.

7. The Court ordered 2,000 tons of Bengal sugar to be provided in 1822-23, value about £58,000.

(Commercial.) LETTER to Bengal, 15th August 1821.

Commercial, 15th August 1821.

2. We transmit in the packet several copies of two Acts of Parliament, passed on the 10th of July 1821; *viz.* 1st and 2d George IV. cap. 105, "An Act for "amending the Laws of Excise relating to warehoused goods;" and 1st and 2d George IV. cap. 106, "An Act to continue, until the 1st day of July one "thousand eight hundred and twenty-four, several acts of his late Majesty "respecting the duties of customs payable on merchandize imported into "Great Britain and Ireland, from any place within the limits of the East-India "Company's charter; and *to increase the duties payable on the importation "of sugar from the East-Indies*, until the twenty-fifth day of March, one thousand "eight hundred and twenty-three, in Great Britain, and until the first day of "July one thousand eight hundred and twenty-four, in Ireland."

4. By the act respecting the duties of customs on East-India goods, you will observe an additional duty of five shillings per cwt. has been imposed on sugar the produce of the British territories, if clayed, or so refined as to resemble the sort usually denominated clayed; but that on the brown or muscovado sugar, of which the consignments from our East-India possessions have hitherto principally consisted, the duty remains as at present. On sugar, both clayed and muscovado, the produce of China, Java, or any other country in the East-Indies except the British territories, the duty has been increased to an amount that will totally exclude it from consumption in this country. From this marked difference in favour of the produce of Bengal and other British possessions, it becomes of the greatest importance that all sugar shipped, either on account of the Company or of private merchants, should be accompanied with the certificate of origin required by the sixth clause of the said Act; and we desire, that all the Authorities concerned in the shipment of this article, be distinctly apprised of the particulars now mentioned; and that all proper facilities be afforded in granting the required certificates of the origin of sugar to the private merchants.

(Commercial—Secret.) LETTER to Bengal, 22d June 1821.

Sec.—Commercial, 22d June 1821.

16. If you have any sugar for consignment to London, beyond what is required for all the chartered ships of the season, you will advertise for freight for the same at twenty hundred-weight to the ton.

Not copied in this collection.

17. The present orders, as well as those of the 7th May, are not intended to convey authority to freight ships wholly upon the account of the Company, but only to hire so much tonnage in each and any ship, as may suit your purpose for the indigo and sugar which you may have upon hand; but not absolutely to preclude you from doing so, if you shall find it more advantageous upon the whole.

(Commercial.) LETTER to Bengal, 6th February 1822.

Commercial, 6th Feb. 1821.

7. It is proper at this time to put you in possession of our orders for dead weight, for the ships to return to England from Bengal and Madras in your shipping season 1823–24.

8. In respect to the articles which are applicable to this purpose, *viz.* saltpetre and sugar, the state of the trade offers no encouragement to importation of either, beyond the quantity absolutely required for the proper loading of the ships.

Letters to Bengal Government. Commercial, 6th Feb. 1821.

11. Under present circumstances, sugar is clearly a more desirable article for consignment to London than saltpetre, as good sugar will realize its Indian cost, but saltpetre is not saleable in large quantities at any price.

12. We therefore direct that measures be taken for the provision, for the ships of the Indian season 1823-24, of 2,000 tons of good sugar, dry, clean, and white, on the most reasonable terms at which you may be enabled to procure it; and you will instruct our Board of Trade to caution the Commercial Residents to use all possible care and economy in the provision of the article, as we cannot look forward to the realizing in London, for any consignment of sugar, a sum beyond the invoice cost thereof in Calcutta.

13. The freight and charges upon the sugar and saltpetre must necessarily constitute a drawback upon the profit on the raw silk and on other fine goods, which cannot be conveyed to England without the aid of some kind of dead weight.

LETTERS TO MADRAS.

(Commercial.) LETTER to Madras, 8th January 1796.

Letters to Madras Government. Commercial, 8th Jan. 1796.

12. We regard the measures which were taken to procure dead weight to have been the best and most conducive to our interests, that could, under the existing circumstances, be resorted to; but in the event of a repetition of this measure, we wish you to arrange with the Bengal Government for supplies of saltpetre, or some other ponderous article, to serve as dead weight, in case you should not be able to furnish sugars or other gruff commodities the productions of your own coast for such purpose, as your purchases of Bengal sugars are found to have had an injurious effect upon our provision in that quarter.

Not entered here. See the Letters to the Supreme Government.

107. Presuming that every exertion was used for effecting the contract for Ganjam sugar at the lowest possible rates, we do not hesitate in sanctioning it with our approbation, although the prices materially exceed those quoted by Dr. Roxburgh, in his letter of the 20th June 1792, referred to in the 40th paragraph of your commercial letter of the 2d May 1793. From the tenor of our former advices, you will have perceived the importance, in many points of view, of introducing this commodity into our investment upon an extended scale; in addition to which, the necessity we shall be under of providing an increased quantity of ballastable commodities, suitably proportioned to our enlarged orders for piece goods, is a consideration by no means to be overlooked. Saltpetre, which has hitherto been principally resorted to in the arrangement of our cargoes, as an article of dead weight, will not, we are apprehensive, under any expected permanent scale of consumption, be hereafter equal to the exigencies of both settlements. We therefore direct that you use every endeavour for extending your provision as far as possible, so as to avoid occasioning any advance in the price by the sudden pressure of the demand.

108. By the account sales stated in the margin,* you will perceive the prospect is encouraging; we therefore wish you to give every needful degree of encouragement to the riotts that may have a tendency to promote an increase in

* *Estimate Profit on forty-eight Chests of Ganjan Sugar, sold 19th April* 1796.

		£.	s.	d.
Prime cost per cwt.	£1 5 3	1	16	10
Charges in India	0 11 7			
Freight		1	4	5
Customs			—	
Charges merchandize in England		0	3	9
		3	5	0
Profit,		0	10	6
Sale Prices from £3. 13s. to £3. 17s. per cwt., the average being		£3	15	6

in the cultivation, which may, we conceive, be effected with little difficulty, when the natives find a ready market opened to them for the disposal of it on fair and equitable terms. It will be necessary, however, that the utmost attention be paid to prevent any debasement in the quality, as upon that alone will depend its future success.

Letters to Madras Government.

Commercial, 8th Jan. 1796.

109. We observe that the charges of packing in chests tend very much to enhance the cost rate. The mode of packing in bags, as practised in Bengal, has been found fully competent to the purpose. We therefore direct that this mode of packing be adopted in your future consignments.

(Revenue.) LETTER to Madras, 2d March 1798.

22. The minute of the Revenue Board of the 30th July 1795, on the proposal of Messrs. Munro and Macleod, for renting a district in the ceded countries under the management of Captain Read, for the purpose of introducing and extending the cultivation of cotton, sugar, and indigo, has convinced us of the propriety of your resolution for putting a negative upon the proposal. At the same time we must rely on the continuance of your endeavours, and those of the Revenue Board and Collectors, for inducing the natives to undertake the culture of those articles, under every reasonable degree of encouragement.

Revenue, 2d March 1798.

33. We are much pleased at the information in the 10th and 11th paragraphs of your letter, in the Revenue Department, dated 23d February 1796, that the extension of the sugar manufacture in the northern circars is likely to prove extremely beneficial to those valuable possessions, by establishing a commodity for exportation, the purchase of which, upon the spot, must necessarily diminish an evil of very serious magnitude, the inevitable exportation of specie from that part of our territories.

(Commercial.) LETTER to Madras, 2d March 1798.

104. Your consignment of Ganjam sugar by the Rodney experienced a favourable sale, yielding upon the average £3. 4*s.* 9*d.* the hundred-weight. It is much esteemed for its quality, which, if kept up to, will always secure a ready vend. We observe that, in addition to its first cost, averaging £1. 5*s.* 3*d.*, the charges prior to its being shipped amount to 10*s.* 11*d.* the hundred-weight. This we find to arise principally from the charges of packing it in boxes, and the freight from Ganjam to Madras, the former of which is equal to 2*s.* 8$d\frac{3}{4}$., and the latter to 7*s.* 8*d.* the hundred-weight. These rates, we are of opinion, may hereafter be very considerably reduced. We direct, therefore, that in future the sugar from this district be packed in mats and gunny-bags, containing six maunds each, or 150 pounds, which is about equal to the weight of a bag from Bengal. The charges of packing in Bengal do not exceed 2$\frac{1}{4}d.$ the hundred-weight. The freight also may, we consider, be avoided, by letting some of our chartered ships call at Ganjam, in their way from Bengal, to bring it from thence to the presidency. When freed from these heavy expenses, there is no doubt of its answering, and that it may be carried to a very considerable extent. Great care, however, must be taken that it is delivered by the persons who engage for its provision in a highly dried state, so as to avoid any considerable loss by wastage. The difference between the weight in Bengal and England has seldom exceeded from 3 to 4 per cent. The consignment by the Rodney was invoiced at cwt. 1,906 0qrs. 1lb., but turned out in sale weight only cwt. 1,769 1qr. 10lb.; the difference is 137 cwt., or upwards of 7 per cent. We are at a loss to account for this difference, otherwise than by supposing it to have dried upon the voyage. We mention this circumstance, that you may guard against it in your future provisions.

Commercial, 2d March 1798.

(Commercial.) LETTER to Madras, 17th April 1799.

56. Being desirous of promoting the culture of sugar in such of our possessions as may be suited to the growth of the cane, with a view of affording to the European market a more ample supply of a commodity now become, in a manner, an important necessary of life. We have permitted Mr. Edward Campbell

Commercial, 17th April 1799.

Letters to Madras Government.

Commercial, 17th April 1799.

Campbell to proceed to India, for the purpose of establishing sugar works in such of the districts under our Madras Government as he may conceive most favourable for such an undertaking. Mr. Campbell has entered into the usual covenants required from persons allowed to reside in India for the purpose of practising in the way of their profession, in which is inserted a special clause, limiting his operations to the manufacture of sugar only; and we direct, that when Mr. Campbell relinquishes this object, that he be required to return to England. As we feel on many accounts much interested in the advancement of this branch of our commerce, we shall be glad to hear that Mr. Campbell's endeavours are attended with success; and we direct that you afford him such countenance and support as you may conceive necessary for enabling him to accomplish the object of his pursuit.

(Commercial.) LETTER to Madras, 29th May 1799.

Commercial, 9th May 1799.

36. For the reasons you assign, we approve of your not having acquiesced in Mr. Mackenzie's proposal respecting the sugar.

(Revenue.) LETTER to Madras, 31st October 1799.

Revenue, 31st October 1799.

18. In the 56th paragraph of our commercial letter of 17th April last, you were advised of our having permitted Mr. Edward Campbell to proceed to India, for the purpose of establishing sugar-works in such of the districts under your government as he might conceive most favourable for such an undertaking. From the perusal of the papers to which you have referred us, in the 42d and 43d paragraphs of your letter of the 16th October 1797, we are persuaded that the Ganjam and Vizagapatam districts are capable of a very extensive cultivation of the cane, and we approve of the directions you have given upon this subject. At the same time it is equally obvious, that without your most vigilant attention, the price will be considerably enhanced upon the Company beyond its proper value. This is evident from the proposition made to deliver sugar at rupees 3 8 per maund, which, though inferior in price to that estimated through the medium of native manufacturers, turned out afterwards altogether exorbitant.

20. In the 66th and following paragraphs of your dispatch of 15th October 1798, we are advised of the appointment of Mr. Parkinson to superintend the sugar-manufactory under Mr. Brown, collector in the first division of Vizagapatam. As you were induced to acquiesce in this appointment on account of Mr. Parkinson's peculiar qualifications in this branch, we direct that you inform us, in reply, whether it has been productive of any, and what essential benefit to the Company. It was intended, we observe, to avail yourselves of Mr. Parkinson's knowledge of the process observed in the distillation of rum, with a view to establish the most advantageous return to be set against the manufacturing process of the sugars, and thereby lessen their actual cost to the Company.

21. We desire to be informed if any progress has been made therein, and what expenses may have been incurred, as we do not mean to authorise the construction of any expensive works in aid of the experiment.

(Revenue.) LETTER to Madras, 3d September 1800.

Revenue, 3d Sept. 1800.

24. We have perused the report of Colonel Read, of 1st September 1797, upon the subject of introducing into the Ceded Districts under his management the culture and manufacture of sugar, rum, indigo, cotton, and cochineal, and approve of your determination with respect to the sugar and rum, the produce of the Tripatoor plantation, as advised in the 72d paragraph of your letter of the 20th February 1798.

25. In answer to the reference made us in the 73d paragraph, in regard to the plantations to the southward, we must observe that it was never in the contemplation of the Company that rum, the produce of India, should become an article of importation to this country, nor is it our intention that the manufacture of sugar should be carried on by the Company, beyond a limited quantity by way of experiment; we, therefore, can have no objection to the southern plantations

in

in the Baramhaul, being disposed of to individuals. Great commendation is due to Colonel Read for his laudable endeavours toward the introduction of these and other articles of culture and manufacture in the Ceded Districts, with the ultimate view of improving the revenue. Letters to Madras Government.

(Commercial.) LETTER to Madras, 10th April 1805.

10. With respect to the contract with Mr. Colley for a supply of sugar, of which we are informed in the 21st paragraph of your letter of the 23d March 1802, we have to observe, that we have no inducement to persevere in this undertaking as a commercial speculation, and therefore recommend to your consideration the propriety of discontinuing it. In any case the present mode of provision seems liable to objection, and forms a proper subject for the revision of our Board of Trade. The prime cost and charges very considerably exceed those of much better sugar at Bengal. Commercial, 10th April 1805.

50. As the difficulties experienced by Mr. Campbell, in the outset of his undertaking, appear to have arisen from the violence of the elements, and circumstances not within his controul, we approve of your having relieved him from the penalties to which he was liable for breach of contract.

51. The arrangement, that rum manufactured by Mr. Campbell shall pay the same duties as Bengal rum, meets our approbation.

(Commercial.) LETTER to Madras, 7th September 1808.

24. As the only inducement which now exists for a provision of sugar in the territories under our Madras Government, is to supply dead weight for the ships which are dispatched with cargoes to Europe, it is therefore unnecessary to prosecute the cultivation of sugar for exportation, unless the commodity can be supplied on terms not exceeding the cost and charges of Bengal sugar of equal quality. Commercial, 7th Sept. 1808.

150. The experience we have had of the high rate of cost of the Ganjam sugar, compared with its sale-price in London, has determined us not to persevere in so losing a concern, of which you have been before advised.

174. Under the particular circumstances of the case stated in your letter of the 21st October 1806, we do not disapprove of your having permitted Mr. Edward Campbell to extend his pursuits beyond the manufacture of sugar.

(Revenue.) LETTER to Madras, 22d May 1818.

44. The correspondence referred to in 122d paragraph of your letter of the 5th January 1816, respecting the expediency of affording encouragement to the manufacture of sugar and sugar-candy in the districts of Cuddapah and Ganjam is of considerable interest, on account of the general principles which we consider to be applicable to this question. Revenue, 22d May 1818.

45. We will not enter into any general discussion of these principles, but will only state, that we disapprove of all gratuitous interference, for the purpose of forcing the skill and industry of a country into new channels, by means of drawbacks and bounties. A trade which needs such a stimulus, is, generally speaking, not likely to be a thriving one; and mischief is almost always done by meddling with existing arrangements in matters of commerce, which have originated in the mutual convenience of the parties, and have been voluntarily continued, from a sense of mutual benefit. For the sugar imported from China into the territories subject to your government, cotton or some other article is exported in return; and, were no sugar to be imported, the production of the equivalent might be considerably discouraged. If sugar can be produced in equal quantity in Cuddapah and Ganjam, and at a lower price than it can be imported from Bengal or China, its production needs no other encouragement than what it will find in the natural interest of the consumers, which always leads them to resort to the cheapest market. If, on the other hand, the sugar grown in those districts cannot compete in price and quality with that which is imported, we are of opinion that it would be impolitic to grant artificial encouragements to the indigenous production.

Letters to Madras Government.

Commercial, 28th March 1821.

(Commercial.) LETTER to Madras, 28th March 1821.

28. We transmit for your information a report on the quality and comparative value of the specimens of the Ganjam sugar purchased of Mr. William Colley, and consigned to us on the Kingston. From that document it appears, that the Board of Trade acted judiciously in refusing to accept Mr. Colley's proposal to furnish an annual supply of that article for a series of years, and we apprehend that even the limited contract for one year, to the extent of 25,000 rupees, will be attended with considerable loss.

29. This measure seems to have been sanctioned principally with a view of encouraging the culture of sugars, so as to secure a regular supply of dead weight; but it is not in accordance with our sentiments on a supply of dead weight from your presidency, which have been communicated in our letter of the 31st May 1820: and as the expediency of resorting to Bengal alone for the future supplies of dead weight for our homeward investment is every day becoming more apparent, we see it right to take this opportunity of noticing, that our views have not been changed since the date of our orders above cited.

Not copied in this Collection.

30. With respect to the provision of sugar at Ganjam, if considered as a substantive article of our investments with a view of being imported into England in whole or mixed cargoes (and not merely as dead weight), we are perfectly convinced, from former experience, as well as from the specimens per Kingston, that sugar could be procured more conveniently from Bengal, and at lower rates than from Ganjam.

LETTERS TO BOMBAY.

(Political.) LETTER to Bombay, 19th February 1794.

Letters to Bombay Government.

Political, 19th Feb. 1794.

26. We have referred to the papers relative to the proposal for the cultivation of sugar and indigo on the island of Salsette, mentioned in the second paragraph of your Revenue dispatch of the 21st December 1792, and direct that you afford every reasonable degree of encouragement to so laudable an undertaking.

(Commercial.) LETTER to Bombay, 28th April 1795.

Commercial, 28th April 1795.

67. We have agreed to give permission for a sugar-mill to be sent out for Mr. Scott, which upon its arrival you will cause to be delivered to his order.

(Revenue.) LETTER to Bombay, 5th June 1795.

Commercial, 5th June 1795.

2. We have received a memorial from Mr. Robert Craufurd, late a Captain in His Majesty's 75th regiment, stating the advantages that might accrue, not only to the Company's revenues but to the manufactures and commerce of India, by improving and extending the cultivation of the different districts upon the Malabar coast, particularly in the new ceded countries, which are well suited to the growth of various commercial articles, such as sugar, indigo, coffee, spices, &c., and requesting that we will allow him a grant in perpetuity, or a long lease, of such parcels of land upon that coast, not exceeding in the whole two thousand acres, for the purpose of his entering upon the cultivation of such of the above commodities as he may think most likely to be attended with success, and also that the articles which may be raised by him upon these lands may be exempted from the payment of duties for a limited period.

3. It is almost superfluous to remark, that improvements in cultivation are always beneficial to the interest of a country, particularly when applied to waste or unproductive lands; and as Mr. Craufurd's proposition has a tendency to promote so desirable an object, we think that, under certain modifications and restrictions, it is deserving of encouragement and support.

4. We

4. We are aware how little the natives of India are disposed to take the lead in any pursuits of enterprise, and that if ever any very important change in the state of the agriculture, arts, manufactures, or commerce of that country be accomplished, it must be brought about by the industry and ingenuity of Europeans; we nevertheless feel a strong doubt on our minds how far it is consistent with the political system of government under which that country is now conducted, that grants of lands in perpetuity, or tenures for any long period of years, should be given to Europeans, especially to persons not immediately in the Company's service. Under this impression, we have not acceded to Mr. Craufurd's request for a grant of land in perpetuity; but if he shall point out any parcels of land in our possession, and not at present in a state of cultivation, within the limited quantity of two thousand acres, we see no objection to your granting him a lease thereof for the remaining period of the Company's Charter. Letters to Bombay Government. Commercial, 5th June 1795.

5. And as an encouragement to that gentleman to enter upon the cultivation of the whole or any of the articles he has enumerated, we direct that for the first ten years he be allowed possession of the said lands free of rent or charge; that for the five next ensuing he be required to pay only one-quarter of the rent paid by lands of a similar description and situation; and that for the remainder of the period, he be required to pay half the rent at which they may have been valued; after which period the land shall revert again to the Company's use and possession.

6. If at the end of the said period, our President and Council shall see fit to continue the said lands, or any part or parcel thereof, to Mr. Craufurd, or to his heirs or assigns, for any further period of time not exceeding in the whole twenty-one years, with powers of revocation on either part at the end of the first seven or fourteen, that the full rent and value be then required for the same.

7. During the said period Mr. Craufurd is not to be at liberty to assign or make over his interest in the said lands, or any part or parcels thereof, to any person or persons whatever, without the approbation and consent of our President and Council for the time being.

8. Mr. Craufurd's request to be exempted from the payment of any export duties on the commodities the growth of his plantations, we have not thought proper to comply with.

(Revenue.) LETTER to Bombay, 27th July 1796.

2. We have received a memorial from Mr. Robert Craufurd, praying permission to proceed to Bombay this season, for the purpose of availing himself of the lease to be granted him of certain lands on the western side of India (of which you were fully advised in our Revenue Letter of 5th June 1795), and requesting that in the said lease the name of Mr. Quintin Craufurd may be inserted, or of such other persons as Mr. Robert Craufurd may hereafter point out to your Government, provided they have our permission to be in India, and do not appear objectionable to the Governor in Council. Revenue, 27th July 1796.

3. We have permitted Mr. Robert Craufurd to proceed to Bombay on one of the ships of this season; but as the Bengal Government have thought it expedient to restrict Europeans from holding more land in the Malabar provinces than about sixteen acres, which measure has already received our confirmation, with an exception to the particular instance of this gentleman, we have resolved not to comply with his request.

4. You must therefore rigidly adhere to our former orders relative to the lease to be granted to Mr. Robert Craufurd, and pay particular attention to the instructions you have received respecting the Malabar provinces from the Bengal Government.

(Revenue.) LETTER to Bombay, 1st March 1797.

9. In the 26th paragraph of our political dispatch, dated the 19th February 1794, we directed you to afford every reasonable encouragement to the cultivators Revenue, 1st March 1797.

Letters to Bombay Government.

Revenue, 1st March 1797.

vators of sugar and indigo on the island of Salsette, but we do not deem it expedient to agree to your proposal for granting a lease of grounds for so long a period as ninety-nine years, or even beyond the duration of the Company's Charter. When this proposal was made by you to the cultivators of indigo on the island of Salsette, our letter of the 5th June 1795, relative to the encouragement to be given to the growth of various commercial articles in the Ceded Districts upon the Malabar coast had not been received. If the business with the cultivators and manufacturers of sugar and indigo on Salsette be not finally completed, we direct that you shape the arrangement with them agreeably to the terms prescribed in our before-mentioned letter, which were confirmed by a subsequent dispatch of the 27th July last.

(Commercial.) LETTER to Bombay, 24th June 1803.

Commercial, 24th June 1803.

57. With respect to the articles of commerce from Dr. Scott, mentioned in your letter of the 14th August 1801, we have to observe, that the sugar cannot fail of being a profitable article at the price we find in the invoice of the hogshead transmitted. Of the arrack we cannot speak favourably: it is of low proof, has a peculiar flavour, and certainly will not answer in its present state for the Europe market.

(Commercial.) LETTER to Bombay, 7th September 1808.

Commercial, 7th Sept. 1808.

3. You will not find it necessary to apply to Bengal for any sugar for dead weight for the extra ships; and should you have any quantity in store, we rather wish that it should be sold, if it can be done without loss, and alkali shipped in the place thereof.

CORRESPONDENCE between the HONOURABLE COURT of DIRECTORS and the GOVERNMENTS in INDIA.

LETTERS FROM BENGAL.

(Commercial.) LETTER from Bengal, 31st July 1790.

Letters from Bengal Government.

Commercial, 31st July 1790.

19. We have lately had before us some observations, drawn up by our Export Warehouse-keeper, Mr. Bebb, on the present state of the export trade from Bengal to the coasts of Coromandel and Malabar. Copies of these papers have been forwarded to your Presidencies of Fort St. George and Bombay, and recommended to their particular consideration; and we have consulted their opinions upon the measure proposed, of abolishing all duties and customs whatsoever upon articles imported by sea from Bengal. In the present view of it, it has the appearance of being highly interesting to the commerce of this country, and of holding forth considerable advantages to the Company, in the reduction of the rates at which remittances are now made.

20. Aware that a subject of this importance, whether considered in a political or commercial point of view, and involving in it accounts for years back, would require time for discussion, we have selected from the general list the particular article of sugars manufactured in these provinces, and have requested to be furnished immediately with the opinion of your Governments at the other presidencies on the proposition for abolishing the duties on this commodity. We have also pointed out the measures which we think should be adopted, provided they approve the abolition; and if they entertain doubts of the propriety of it, we have desired that these may be stated for our ultimate decision.

(Commercial.) LETTER from Bengal, 6th November 1790.

Commercial, 6th Nov. 1790.

26. We have lately received a letter from your Government of Bombay, declaring, that after consulting with the Company's officers of revenue there and at Surat, and taking

taking the opinions of merchants most conversant on the subject, they have the strongest reasons to believe that essential benefits will ensue from the measure suggested to them of taking off the import duties on sugars manufactured in Bengal, and that they have consequently determined to adopt it, after having allowed a reasonable time for the merchants to dispose of the China and Batavia cargoes they may have engaged for. Letters from Bengal Government. Commercial, 6th Nov. 1790.

27. They have acquainted us, that they have fixed upon the 1st September 1791 for the commencement of this new regulation, and they have promised an attentive discussion of the other subjects recommended to their consideration, as soon as the materials necessary to form a judgment upon them shall have been collected.

43. We have given leave to the Board of Trade to consign you by the Princess Amelia some long pepper and sugar, in continuation of the experiments by the ships of last season.

(Commercial.) Letter from Bengal, 16th November 1790.

3. The 23d paragraph of your letter of the 19th May, shewing that there is not only a very heavy loss to the Company upon redwood, but that it is in a manner unsaleable, we have had under consideration the sentiments of your Board of Trade upon the subject, and at their recomendation have authorized the quantity now on hand here to be sold, as likely to be much more productive than at home, and sugar to be sent in lieu of it, to the extent of the usual tonnage of redwood. Commercial, 16th Nov. 1790.

(Commercial.) Letter from Bengal, 31st January 1791.

6. We have received accounts of the quantity of sugar-candy and jaggrey imported into Fort St. George from Bengal for the last five years. Commercial, 31st Jan. 1791.

30. Mr. George Smith having laid before us certain plans for transporting cotton to England, and for the cultivation of sugar in this country, and its importation into Great Britain, we are induced at his request to forward copies of them. *Not inserted here.*

(Commercial.) Letter from Bengal, 25th November 1791.

53. Your Honourable Court will observe in our Consultations, that the receipt of your Commercial Letter dated the 6th of May, was not formally taken notice of, and that the official orders upon it were not passed until several days after its arrival; but measures had been taken by the President of the Board of Trade to give effect to the instructions contained in it relative to a consignment of sugar, and nothing was lost by the delay in recording them. Commercial, 25th Nov. 1791.

63. The observations made by the Board of Trade on the new articles of commerce laden on the Queen, will no doubt attract your attention; of these the sugar is the most important.

64. The present consignment of this article is from three different factories; and as the provision of each factory differs very considerably, we request that particular examinations may be made by persons competent to judge of their inherent properties, and we further solicit that a copy of the report may be submitted to us. The Board of Trade have enlarged upon the subject, as far as the knowledge they at present possess renders them competent to treat upon it, and to this we beg leave to refer. The sugar produced in Bengal is deserving of great attention, as its quality and cheapness will occasion the consumption of great quantites in Europe and America, to which places it will assuredly be carried in foreign bottoms, if the English neglect the trade, or if they charge it with a heavy freight and heavy duties.

The prices of the consignments by the Queen are as follows, including commission and all charges to the time of leaving your warehouses, and rating the current rupee at 2*s.* 0*d.*

Benares, 1st and 2d sort, average	17*s.* 4*d.* per cwt.
Rungpore, 1st and 2d do.	17*s.* 6*d.*
Soonamooky	20*s.* 3*d.*

Letters from Bengal Government.

(Commercial.) LETTER from Bengal, 25th January 1792.

Commercial, 25th Jan. 1792.

26. You will observe that the Board of Trade have been induced by the favourable reports of sugar, to recommend a very considerable allotment, to which we agreed, for the provision of this year, at four different factories, Rungpore, Radnagore, Soonamooky, and Benares.

27. The Radnagore sugar (though the assortment now consigned appears to be the lowest priced of any yet sent to Europe) is in particular estimation with the natives; and we beg leave to add our own request to that of the Board of Trade, that very particular reports of the experiments made in refining, not only the Radnagore but the sugar of all the factories, may be transmitted from England. A small quantity of purified Benares sugar, purchased in the bazaar, is now consigned by way of sample.

(Commercial.) LETTER from Bengal, 27th April 1792.

Commercial, 27th April 1792.

32. We have the honour to refer you to a letter from the Board of Trade, explanatory of some apparent inconsistencies noticed in your advices of the 6th of May respecting the rates at which Benares sugars have been purchased, and the charges which fell upon a parcel of those sugars bought in Calcutta, exceeding the amount thereof on a more considerable quantity provided by the Commercial Resident in the district itself.

33. Mr. John Paterson, who we were informed in the same letter had entered into engagements with the Company for the supply of sugar, to be manufactured by himself, advised us of his arrival in Calcutta on the 4th instant, and of his readiness to obey our orders for carrying those engagements into effect.

34. Benares and Sircar Saurun (a district of Bahar) were mentioned by Mr. Paterson as the countries the best adapted to the purpose of establishing his intended sugar-works and plantation, and with a view to determining a situation the most eligible for his purpose, he requested our permission to be allowed to proceed to those countries without delay.

35. We informed Mr. Paterson that he might be assured of receiving every encouragement from this Government that could be given him, consistently with the Company's orders, to enable him to accomplish the objects of his undertaking; that no objection whatever occurred to his proceeding to Sircar Saurun, the Collector of which district would be instructed to afford him every necessary information and assistance in his power; but with respect to his visiting Benares, no mention had been made of that district in his engagements with the Company, which expressly specified Bengal and Bahar as the countries in which land should be assigned to him for his sugar plantation.

36. Mr. Paterson observed to us, in answer to this remark, that although the zemindarry of Benares was not expressed in his agreement, he had never apprehended that, if he could find land there the most suitable for the culture of the sugar-cane, and uniting all those other circumstances which he must regard as necessary to realize the expectations of his employers, he should on that account be precluded from the liberty of endeavouring to possess it. He repeated his application for leave to establish his works in Benares, if on examination he should find an eligible situation for them; and he observed to us that, as he hoped to be able to procure lands in that country, with the canes already planted upon them, he should this year have it in his power to manufacture and deliver sugars to the Company, of a superior quality, and at a lower price, than they might otherwise, perhaps, be able to procure them.

37. As it appeared that Mr. Paterson gave so decided a preference to Benares, as the country in which it was probable that your intentions, in entering into an engagement with him, would be most effectually as well as speedily fulfilled, we consented to his proceeding thither for the purpose required, upon condition that if, upon a reference to your Honourable Court, it should be found, that by not specifying that zemindarry in your letter concerning Mr. Paterson, you meant to exclude it, or if, for any other reason, you should disapprove of his establishment there, he should hold himself subject to the consequences, and the loss that might arise from its being discontinued.

41. Though

41. Though it is conditioned in one of the articles of Mr. Paterson's agreement that the sugar to be provided shall be equal to a sample, no such sample was received by us; but he informed us that he had brought one with him, and we desired him to transmit it to the Board of Trade, with whom his future correspondence is to be carried on upon all matters relative to his contract with the Company.

Letters from Bengal Government.

Commercial, 27th April 1792.

(Commercial.) LETTER from Bengal, 3d September 1792.

29. A letter from your Secret Committee, dated 3d November 1791, relative to sugar, was received here the 1st May, and the subject of it was immediately referred to our Board of Trade for their consideration.

Commercial, 3d Sept. 1792.

30. It being highly necessary that the measure to be adopted by us, in consequence of the direction contained in that letter, should be conducted in as secret a manner as possible, in order that a sufficient supply for the Company might be provided with the best precautions against its suffering from the competition of individuals, all our correspondence with the Board of Trade concerning the increase of your investment in the article of sugar has been recorded in the Secret Department.

31. The Secret Consultations of the 4th May contain the Board's answer to our reference to them of your Secret Committee's letter above-mentioned; and you will observe, that they directed the Commercial Agents at the sugar aurungs to secure immediately, at reasonable prices, as much sugar as they could, in addition to the quantity already ordered.

32. Of the success with which these directions have been attended, your Honourable Court will be enabled to judge by a reference to our Secret Consultations.

33. The Secret Consultations of 1st June contain a letter from the Board of Trade respecting the estimates received from the several aurungs, of the quantity of sugar they would be enabled to provide for the present year, in addition to their original allotments.

36. Our Secretary having laid before us a letter which he received on the 11th ultimo from Mr. Secretary Morton, dated the 1st March 1792, desiring to be acquainted by an overland packet, and the earliest sea conveyance, what quantity of sugar we should probably consign to England between the months of November 1793 and March 1794, with the expected cost of the same, in proportion to the different qualities we might be able to procure, we called upon the Board of Trade to furnish us with this estimate as soon as possible.

37. We were afterwards, on the arrival of your ship Ponsborne, honoured with your dispatches for this Department, dated 14th March, requiring the same account, with the small exception as to the date of the consignment, which is stated to be from the beginning of October 1793 to the 1st February 1794; and you desire that we will continue from time to time to give you the earliest information upon this subject, that you may be apprized what quantity of tonnage it will be necessary to provide for bringing the sugar to England. To this order we shall pay the strictest attention in our power.

38. Previous to the receipt of the letter of Mr. Secretary Morton, your Board of Trade had of themselves, seeing that the state of the sugar trade rendered it expedient to take early measures for providing cargoes of that article for the ships that would sail from hence in the season of 1793-4, issued to the sugar aurungs the instructions which make a number in the packet.

39. We have since received a letter from the Board of Trade, containing the best information that they are at present able to furnish, in answer to the dispatch from Mr. Morton, a copy of which also attends you a number in the packet.

40. To add to the chances of its reaching England in sufficient time for the purpose mentioned by your Honourable Court, we have forwarded it overland by the way of Bombay.

42. The Board of Trade, in a letter dated the 7th of last month, recommended that

Letters from Bengal Government.

Commercial, 3d Sept. 1792.

that certain inquiries may be made, by our authority, of the Collectors of the Revenue, respecting the quantities of land cultivated with sugar, and the supplies of sugar annually produced therefrom; and of the custom-masters at Calcutta and Manjee, as to the quantities of sugar imported into Calcutta and into these provinces respectively; adding, in the instructions to the former, the exportation of the article by sea. We agreed with the Board of Trade that the inquiry might be productive of useful information, and issued the necessary orders to the Board of Revenue in consequence.

43. We have the pleasure to transmit a number in the packet, an extract from the proceedings of the Board of Trade respecting sugar as a new article of commerce. Your Honourable Court will have the satisfaction to observe, that they express their firm conviction that its encouragement will be extremely beneficial to the agriculture, population, and revenues of these provinces, and highly advantageous to your interests; and that it will have a tendency to increase the navigation, revenues, and general interests of the nation.

44. With respect to what is urged by the Board of Trade on the subject of freight and duties, as necessary to promote an object of such great importance, we beg leave to refer you to their proceedings.

45. You were informed, in our address of 27th April, of what had occurred relative to Mr. John Paterson. It afterwards appeared that Mr. Paterson had relinquished his intention of establishing his sugar plantation in Benares, and preferring an establishment in Beerbhoom, had concluded an engagement with certain riotts of that district.

46. A difficulty now arose, which involving a question that from its nature was referable to the Revenue department (whence you will be advised of our resolutions in consequence), we shall only here observe, that Mr. Paterson's letter to the Board of Trade, and copies of his correspondence with the Collector of Beerbhoom upon the subject, are recorded on our proceedings of the 8th June.

47. The Board of Trade acquainted us on the 6th July, that the Export Warehouse-keeper, in pursuance of your orders of the 6th May 1791, for sending home samples of every kind of sugar manufactured here, had purchased a quantity of about 106 maunds of the produce of a manufactory said to be superintended by natives of China, for the sum of C.Rs. 816 8 6 in part of this year's allotment for new articles.

48. There being a sufficiency of freight for the ships of the last season, the Board of Trade resold some Benares sugar, part of a purchase which they made in the bazar for exportation to Europe, and the remainder of the purchase, being 170 maunds of Sooksagur refined sugar, was reserved to be sent to Europe in the next season.

49. An application has been made to us by the Board of Trade, in favour of such of the Commercial Residents as are employed in the provision of sugar, recommending that the commission of five per cent., usual on the other articles of the investment, should be allowed them upon this, instead of two-and-a-half which has been hitherto customary.

50. The extent of the sugar investment, its present importance, and the activity required in providing it, added to the other reasons assigned by the Board of Trade in support of their recommendation, induced us to think it by no means unfair or unreasonable, and we therefore agreed to it.

51. We have permitted Sir Charles William Blunt to send on the usual terms to England, on the ships of the season, about five cwt. of Radnagore, and a similar quantity of Beerbhoom sugar, for the purpose of experiments in refining.

(Commercial.) LETTER from Bengal, 14th December 1792.

Commercial, 14th Dec. 1792.

Your letter of the 25th April 1792 was transmitted to the Board of Trade, with the necessary instructions; but your Honourable Court will have observed, on the perusal of the 42d paragraph of our general letter of the 3d September 1792, that your wishes upon this important subject of inquiry had in a great measure been

Letters from Bengal Government.

Commercial, 14th Dec. 1792.

been anticipated by the particular reports that had been called for, at the instance of the Board of Trade, from your several Commercial Residents and the Collectors of the Revenue.

77. Our commercial advices of 3d September will have informed your Honourable Court of the measures which had been adopted by us to the period of the dispatch of that ship, to meet your wishes respecting the intended provision of the article of sugar, and the quantities which might be expected to be consigned to you in the season of 1793-4.

78. We wrote to the Board of Revenue on the 17th of September, directing them to issue orders to the Collectors, to consider it as an object of their peculiar attention to promote the cultivation of the sugar-cane, and to make the cultivators sensible of the advantages which would result to them from this species of produce, on account of the increasing demand for it as an object of exportation.

79. But as it might be well expected that the rapacity, or perhaps the confined way of thinking of the landholders, would prompt them to seek for immediate advantage from the extension of cultivation to be expected from the increased demand for sugar, we made it a particular article of our instructions to the Board of Revenue, to direct the Collectors to take every precaution in their power to obviate a consequence so destructive to the advantages which, under proper regulations, these provinces might hope to derive from the increasing demand from one of their most valuable productions.

80. The Board of Trade, in two letters, dated 25th September and 19th October, submitted to us their opinion on the means most likely to promote the increase of the produce of sugar.

81. By a perusal of our answers to these addresses, you will observe that we differed from the Board of Trade on a point of some magnitude, involving considerations connected with the welfare of a very numerous class of cultivators, as well as with the extension of the produce in question. The result of our deliberations was, that both these important objects would be better consulted by making advances for sugar to the manufacturer than to the cultivators themselves.

82. A disappointment experienced by the Commercial Resident at Radnagore in the provision of a quantity of sugar, for which the advances had been made to the manufacturers, did not produce any change in our sentiments on the above subject; and you will observe our reasons for persisting in the conclusion above stated, notwithstanding an event which might be thought to affect the justness of it.

83. The Custom-masters at Calcutta and Manjee have prepared statements of sugar imported at those places respectively.

85. The quality of the Bishenpore sugars being very good, the Board of Trade were desirous of extending the provision to that district; but it appeared that the ryotts cultivating this produce were so situated in wild and woody places, open to the depredations of decoits, that being from absolute necessity often obliged to fail in their engagements, the risks of making advances to them would be too great for any profits that might be derived from the return, except in certain aurungs subordinate to the factory at Soonamooky, which are protected by the guards sent for their immediate protection.

86. A mode of obviating this inconvenience was suggested to the Board of Trade by Mr. Cheap, the Resident at Soonamooky, and recommended to us by the former for adoption. Mr. Cheap having consulted with the Collector of the district, proposed that his receipts as Commercial Resident should be admitted as a revenue payment in the two districts of Bishenpore and Beerbhoom; that is, when the goor should be ready, it should be purchased by him from the ryotts, partly by payment in cash, and partly in receipts, which last should be taken as cash by the Collector.

87. The above proposition having received our approbation, the necessary directions were issued to the Board of Revenue.

Letters from Bengal Government.

Commercial, 14th Dec. 1792.

88. It having been suggested to us by the Board of Trade, that it would be attended with great advantage to appoint some person of capacity and experience to be Inspector of the Company's sugar, on the same footing as the inspectors of the other branches of your investment, we took the subject into consideration on the 14th September, and admitting the utility of the office, we nominated to it Mr Francis Horsley (who resided some time as a sugar-planter in the West-Indies), with a salary of 200 rupees per mensem.

(Commercial.) LETTER from Bengal, 29th January 1793.

Commercial, 29th Jan 1793

11. You will observe, that so early as the 27th of last month the sum of C.Rs. 7,56,612 had been actually advanced for this part of your investment of 1793; since that period a very considerable addition has been made to the amount, but the total sum that may be required for the provision of sugar is yet uncertain.

12. We forward to your Honourable Court such reports as have been received from the Collectors, of the cultivation and annual produce of sugar in their respective districts; and we likewise transmit a statement by the Collector of Government customs at Manjee, of the importation of sugar the produce of the Nabob of Owde's teritories, and the zemindarry of Benares, between the 1st August and the 31st October 1792.

(Commercial.) LETTER from Bengal, 8th March 1793.

Commercial, 8th March 1793.

17. We have the honour to forward a part of the present dispatch, a copy of an account transmitted by the Collector of Government customs at Manjee of the amount of the sugar imported from the zemindarry of Benares, from the 1st November 1792 to the 31st January 1793.

18. At the request of Mr. W. Fitzmaurice, we forward a memorial addressed by him to your Honourable Court on the culture and manufacture of sugar as conducted in these provinces. [*This will be found in the First Appendix.*]

(Commercial.) LETTER from Bengal, 29th July 1793.

Commercial, 29th July 1793.

We think it proper to transmit you, by a dispatch in duplicate overland, a copy of a letter which we have received from the Board of Trade, containing their report of the quantity of sugar they may be able to send home from hence in the shipping season 1794-5.

(Commercial.) LETTER from Bengal, 12th August 1793.

Commercial, 12th Aug. 1793.

12. The Board of Trade, on the 15th July, submitted to us an abstract of the allotments for the investment of the current year, and an account of the advances issued for it, distinguishing those on account of sugar.

13. Further particulars upon this subject are detailed in their letter abovementioned.

14. The zeal which they have shewn for the success of the investment, and in no part of it more than the provision of sugars, has certainly been extremely commendable, and we should have been glad to have met their wishes for extending it; but as it appeared that the amount already granted for the investment of the current year was very considerable, and full as much as could be applied to that purpose consistently with due regard to the discharge of the debts of this presidency and the preservation of the public credit, we did not deem it advisable to authorize any further advances for sugar.

17. In a letter from the Board of Trade of the 29th July, they stated their apprehensions of bad consequences from checking the advances for sugar, especially as they expected a considerable increase of tonnage, which all their exertions would be required to fill.

18. We were, however, from the state of our finances, and other reasons already set forth, under the necessity of confining the supplies of sugar, for the present year's investment, to the quantity they had already engaged.

43. We

43. We beg leave to refer to our letter of the 3d of September 1792, as to measures which we had adopted to ascertain the quantities of land cultivated with sugar, and the supplies annually produced therefrom; also the quantities of sugar imported into Calcutta and these provinces, and the exportation of the article by sea. Letters from Bengal Government. Commercial, 12th August 1793.

44. We have received the following reports.

45. A Report, dated the 20th April, from the Acting Resident at Benares, on the culture, produce, and exports of sugar, with a particular detail of the expense and returns of the whole.

46. Statement of the sugar imported from the zemindarry of Benares, from 1st of February to the 30th of April 1793.

47. Statement from the Calcutta Custom-master, of the exportation of sugar from the 1st of April to the 30th June 1793.

48. Mr. James Paull, who resides at Lucknow, submitted to us in the month of June proposals for the supply of 15,000 maunds of sugar, on or before the 15th November, at C.Rs. 9 per maund, and for 60,000 maunds at the same rate on or before the 1st day of October 1794. But we did not think it necessary to accept this offer, as a sufficient supply had been engaged in your own provinces, and that which he tendered would be the produce of the Nabob's.

49. In our proceedings of 24th June, you will observe an application for a further supply of 50,000 rupees to the Resident at Rungpore, for the provision of sugar. The price had risen in consequence of the resort of private purchasers. The Board of Trade had, however, thought it advisable to authorize the continuation of the provision, especially as the war with France, and the state of the Netherlands, might be expected to cause a check to the eagerness of private speculation.

50. Having entirely acquiesced in an opinion delivered by the Board of Trade, that you should have the earliest information of the quantity of sugar they may be enabled to send home in the shipping season of 1794-5, we transmitted to your Honourable Court overland a copy of their statement, dated the 22d July, formed upon reports from the different stations of the quantities that may be provided at each, and an estimate of the probable cost thereof. Annexed is an account of sugar exported to Europe and America between the 1st of April and 30th of June last, amounting to 21,274 cwts.

(Commercial.) LETTER from Bengal, 12th January 1794.

54. Our proceedings of the 20th December contain a letter from Mr. James Paull, who resides at Lucknow, submitting to us proposals of a similar nature to those which we had once rejected, for furnishing the Company by contract with a large supply of sugar, to be sent home in two seasons. Mr. Paull had understood that his former proposals had been declined, not on account of the terms, but because we had for some time objected to making engagements for the provision of any part of the Company's investment in the Vizier's country, and that the support which might be desired in completing so extensive a contract, could not be granted consistently with the principles established by Lord Cornwallis with the Company and His Excellency's Government. Commercial, 12th Jan. 1794.

55. Mr. Paull explained, that he did not require the least interference or support from Government to enable him to execute his contract, and has offered to supply sixty thousand maunds of sugar by the 1st of November 1794, and the like quantity by the same period in 1795, according to musters which he has furnished, at the rate of nine sicca rupees per Calcutta maund of eighty sicca weight, to be advanced for at separate times by bills on the Lucknow Treasury, or proposes to receive the same prices as the Company's Commercial Residents shall be paid in each of the two years, for the sugar provided by them within the provinces, without allowing him the commission which the Residents receive. Mr. Fairlie was mentioned as his security for the performance of his engagements.

56. We have referred the proposals to the Board of Trade for their opinion and report.

(Commercial.)

Letters from Bengal Government.

(Commercial.) Letter from Bengal, 10th March 1794.

Commercial, 10th March 1794.

3. In our letter of the 12th of January last, we noticed a proposal made by Mr. James Paull, for supplying the Company with 4,285 tons of sugar in the seasons 1794 and 1795.

4. On the 20th of the same month the Board of Trade transmitted to us a copy of the Inspector's report on Mr. Paull's sample, and a minute, by which it appeared they were decidedly of opinion that it was not advisable to accept the proposal tendered by Mr. Paull, and we rejected them accordingly.

5. We shall transmit in the packet a copy of an application from Mr. Horsley, who holds the office of inspector of sugar, soliciting an increase to his allowances.

6. As this request was supported by the recommendation of the Board of Trade, having evidence also before us of the very increased state of this export, and of the aid and benefit received from Mr. Horsley's experience and skill, we agreed to increase his salary from the very moderate amount at which it then stood to Rs. 500 per month, and he has been made to understand, that as it is likely that coffee and other articles produced in this country may become articles of export to Europe, it will be required of him to furnish the Board of Trade with any advice or assistance they may desire in respect to articles of that description.

(Commercial.) Letter from Bengal, 24th December 1794.

Commercial, 24th Dec. 1794.

24. In October last the Board of Trade forwarded to us two letters from Mr. John Paterson, who came out to this country in 1792 for the purpose of making an essay in the manufacture of sugar, according to the method in use in the West-Indies, and under engagements to deliver to the Company the produce of his works. The letters contained applications for an advance of cash, which the Board of Trade declined recommending a compliance with, because, according to his engagements, he is entitled to payment for his sugar only on the delivery of it at the Export Warehouse. Although we admitted the propriety of the Board's arguments, yet, upon taking into consideration Mr. Paterson's request, with the unforeseen expenses he might have incurred, and the advantage which the Company will derive from his success, if ultimately Mr. Paterson should be able to complete his engagements with them, we agreed to afford him the assistance he required, by a loan of Rs. 25,000, on good personal security to repay the same with interest within twelve months from the date of the advance, in case he should not within that time deliver sugar equal to the amount, principal and interest, at the contracted rate. With these terms Mr. Paterson complied, and the cash has been advanced to him.

25. Having called upon the Board of Trade to state to us, to the best of their ability, a calculation of the out-turn of the consignments of sugar of last season, they transmitted to us a minute of their proceedings on this question; and we observe with pleasure, that though the consignments were provided during a vehement competition, the result encourages a perseverance in the trade, especially when it is recollected that the purchases made here at excessive prices are compared with the sales of a very depressed state of commerce in Europe, and that to the introduction of sugar may be fairly attributed the reduction that has already taken place in the cost of freight.

(Commercial.) Letter from Bengal, 7th February 1795.

Commercial, 7th Feb. 1795.

63. Our proceedings of the 3d October contain a rule established by the Resident at Benares, and approved by us for the custom-houses in that zemindarry, that when sucker or goor is imported into the country and refined into soft sugar, sugar-candy, or what is called kund sufied, or refined sugar, the produce of such sucker shall not be liable to further duty on exportation.

75. We have authorized the Commercial Resident at Benares to purchase some works which he rented last year, at Rupees 500 for the season, for the manufacture of sugar; also to purchase a range of godowns situated close by, and said to be a desirable acquisition.

76. The

76. The whole of the ground the scite of a fort reported to be the Company's property, and within the precincts upon which the manufactory of sugar stands, should have been made over to the Commercial Resident. Letters from Bengal Government. Commercial, 7th Feb. 1795.

(Commercial.) LETTER from Bengal, 30th April 1797.

21. With respect to the observation in the concluding part of paragraph 79 of your letter of 27th July 1796, as to the extension of the cultivation of the cane not keeping pace with the demand, and your wish that some means should be devised for affording such assistance to the ryotts as they may appear to require, we have to acquaint you, that we have every reason to believe, that since the transmission of the information which led to this observation, the cultivation of the sugar-cane has greatly increased; nor does it appear to us that any further encouragement is necessary for its extension in proportion to the demand, than that which has been already afforded, by the restrictions imposed on the raising the rents of sugar-grounds, and the limitation of the demand of Government on the proprietors of estates. These arrangements have rendered the ryotts and the landholders equally interested in the increase of the cultivation of this valuable article of produce, and consequently may be relied on with confidence for the accomplishment of your wishes in this respect. Commercial, 30th April 1797.

(Public.) LETTER from Bengal, 30th December 1797.

85. The China sugar-cane which was imported last year thrives particularly well in the Botanic Garden, and considerable quantities for planting have been distributed. Public, 30th Dec. 1797.

(Commercial.) LETTER from Bengal, 30th December 1797.

44. In our letter of the 24th December 1794, we informed your Honourable Court, that we had lent Mr. Paterson the sum of S.Rs. 25,000, to enable him to carry on his sugar-manufactory. Commercial, 30th Dec. 1797.

45. On the 26th September, the Board of Trade reported to us the death of this gentleman, and we, in consequence, directed them to call on his securities (who were also his administrators) for the payment of the sum due with interest.

(Commercial.) LETTER from Bengal, 16th March 1798.

2. We have the satisfaction to inform your Honourable Court, that we have been able to appropriate the sum of one crore and five lacks of current rupees for the investment of 1798, being the standard at which it was fixed for the past year, besides the further sum of sicca rupees three lacks, for augmenting the provision of sugar. Commercial, 16th March 1798.

(Commercial.) LETTER from Bengal, 31st December 1798.

41. The Board of Trade having represented to us, that for the sum of S.Rs. 15,000, the works at the distillery at Mirzapore might be enlarged, so as to admit of 100,000 gallons of rum being made in addition to the quantity of about 140,000 gallons, which may now be produced, we have at the recommendation of the Board authorized the proposed enlargement. Commercial, 31st Dec. 1798.

(Commercial.) LETTER from Bengal, 1st March 1800.

8. Your letter of the 17th April 1799, directing the Board of Trade to comply with the indents from St. Helena for rum, as far as may be in their power, to prevent the necessity of purchasing spirits from the Cape at an advanced price, has been communicated to the Board of Trade, and particular attention shall in future be paid to your orders respecting supplies of spirits to St. Helena. Commercial, 1st March 1800.

Letters from Bengal Government.

(Commercial.) LETTER from Bengal, 31st July 1801.

Commercial, 31st July 1801.

23. The orders in paragraphs 66 and 67 of your letter of the 28th August 1800, respecting rum from the distillery at Mirzapore, and sugar manufactured by Mr. Cardin at Mirzapore, have been communicated to the Board of Trade for their information.

(Public.) LETTER from Bengal, 31st December 1799.

Public, 31st Dec. 1799.

36. For full information upon the progress made in the cultivation of the nutmeg, clove, and other plants, and also the teak-tree and China sugar-cane, we beg leave to refer your Honourable Court to a letter from the Superintendent of the Botanical Garden, under date the 1st, and recorded in our proceedings of the 5th instant.

(Secret.) LETTER from Bengal, 9th April 1801.

Secret, 9th April 1801.

38. You will observe at the same time that the provision of sugar will be entirely relinquished in the present year. In determining to adopt this measure, the Governor-General in Council adverted to the following considerations:

1st. The quantity of sugar on hand, being the produce of the past year, is considerable, and with the usual investments of saltpetre will raise the proportion of heavy tonnage beyond the amount probably requisite for the due assortment of the cargoes.

2d. It is generally understood, that the stock of sugar in England is considerable; that the price is likely to continue low in that market; and consequently no expectation can reasonably be entertained of deriving a profit from the exportation of this article from India, while it shall be subject to the high freight, and to other extraordinary charges incidental to a state of war.

3d. The peculiar circumstances of our present situation having limited the means of providing an investment, a preference should be given to those manufactures which would suffer most severely by the sudden loss of the support hitherto derived from the Company's advances. The discontinuance of the investment of sugar during the next season is not likely to produce any permanent effect of an injurious tendency on the future culture of that article: the individuals who cultivate it will not be deprived of employment. The demand for sugar for home consumptiou within these provinces is considerable; the lands now applied to the culture of sugar for the European market may be usefully employed for other purposes; and as the manufacture of sugar in Bengal requires no particular degree of skill, it can always be resumed, and can be extended, according to the demand for the article.

(Separate.) LETTER from Bengal, 31st July 1801.

Separate, 31st July 1801.

(Customs.)— 33. Goods imported into the town of Calcutta, for exportation to England, (with the exception of indigo and raw silk) were heretofore subject to the town duties. Under the new regulation, a drawback of those duties is allowed, under certain restrictions, on all the principal articles of export to England. The drawback may be extended to other articles of export as circumstances may hereafter require.

(Salt, Opium, and Customs.) LETTER from Bengal, 31st July 1801.

Salt, Opium and Customs, 31st July 1801.

40. Your Honourable Court will observe that the Governor-General in Council has authorized the Governments of Fort St. George and Bombay to establish town-duties at those presidencies, provided that there shall appear no objection to the measure.

(Public.) LETTER from Bengal, 5th April 1802.

Public, 5th April 1802.

342. In his dispatch, dated the 2d of September 1800, the Governor-General in Council had the honour to inform you, that deeming it to be an object

object of essential importance that an investigation should be made into the state of agriculture, arts, and commerce, in the valuable dominions acquired during the last and the preceding war with the late Tippoo Sultaun, his Excellency in Council had appointed Doctor Francis Buchanan, a gentleman who had proved himself eminently qualified for this important duty, to conduct the investigation.

Letters from Bengal Government.

Public, 5 April 1802.

343. Mr. Buchanan returned to this Presidency in the month of August last.

344. The Vice-President in Council will lose no time in reporting to your honourable Court the result of Mr. Buchanan's deputation, after that gentleman shall have prepared and submitted his report on the investigation confided to him.

Extracts will be fonnd in the Third Appendix of these Papers.

(Commercial.) LETTER from Bengal, 17th April 1802.

22. The Vice-President in Council begs leave to refer to the proceedings of the Governor-General in Council of the 14th of May last, from which you will observe that the office of inspector of sugar has been abolished.

Commercial, 17 April 1802.

41. Under an arrangement made with Messrs. Frushard and Laprimauday, the sum of S.Rs. 3,412. 2. 8. has been received from the commission due to Mr. Frushard on the investment of 1,800. Stoppages will be made annually from the commission, until the debt due by the estate of the late Mr. Paterson shall have been gradually liquidated, or the bond discharged by the attornies of General Stibbert.

(Public: Ceded Provinces.) LETTER from Bengal, 20th October 1803.

7. The proceedings of the 24th March and 2d and 16th June contain letters from the temporary superintendant of the investment in the Ceded Provinces, and from the Board of Trade, relative to the manufacture of sugar and sugar-candy in the province of Rohilcund.

Public, 20 October 1803.

8. Your Honourable Court will observe from these papers, that sugar manufactured in Rohilcund, by the process in use in that province, has scarcely any grain, and possesses the colour of cheenee in a very trifling degree; and that it is far inferior to a sample of cheenee lately manufactured at Santipore. It appears, however, from the report of the Sub-Export Warehouse-keeper, on a sample of Rohilcund sugar, manufactured under the directions of the superintendant, that the sugar so manufactured possesses an uncommonly strong grain, and that the colour is bright and pure. The same report adds, that sugar of the same quality would sell at the Presidency for from S.Rs. 10 to S.Rs. 10 8 per bazar maund; and that there was no doubt that it would be highly prized in the European market; the grain and substance being of that kind chiefly in demand by the refiners. The Sub-Export Warehouse-keeper has, at the same time, reported very favourably on a sample of sugar-candy, the manufacture of Rohilcund, also received from the Superintendant. In this report the Warehouse-keeper remarks, that although the sugar-candy above-mentioned is inferior to the Chinese sugar-candy of the best quality, it far exceeds in quality any sugar-candy which has been made in Bengal for sale in the Calcutta market; and that a merchant had offered to purchase sugar-candy of the same quality at the price of S.Rs. 22 per bazar maund.

9. The Governor-General in Council has the honour of forwarding a letter from the Board of Trade, dated the 15th of August, in continuation of this subject. It will appear from these papers, that sugar of the quality mentioned in the preceding paragraph, as manufactured under the directions of the superintendant, can be provided at an expense not exceeding Bareilly Rs. 5 12 per factory maund, including the charges of transportation and all other charges exclusive of duties; and that the cost of the sugar-candy, including all charges, would not exceed B. Rs. 14 8 per factory maund, when landed in Calcutta.

10. The

Letters from Bengal Government.

Public, 20 Oct. 1803.

10. The Superintendant of the Investment having stated that about ten thousand maunds of sugar, of the quality manufactured under his directions, can be provided in Rohilcund in the season 1803-4, it is the intention of His Excellency in Council to authorize the Commercial Resident at Bareilly to provide that quantity. As a preparatory measure, the Commercial Resident has been called upon for an estimate of the expense of constructing buildings at Shahjehanpore, (the principal mart for sugar in Rohilcund,) sufficiently extensive for the manufacture of the above-mentioned quantity of sugar.

11. Adverting to the heavy duties levied on sugar-candy in England, it has not been deemed adviseable to order any provision of that article in part of the investment to be provided for the Honorable Company; but, with the view of affording encouragement to the manufacture of sugar-candy in Rohilcund, and in order that its superior quality and moderate price may render it an article in demand at the Presidency, the Governor-General in Council has authorised, as an experiment, the provision of two hundred maunds in the present season for sale in Calcutta.

12. With regard to the remark of the Superintendant of Investment, that Rohilcund alone will be capable, in the course of two years, of furnishing annually ten thousand tons of good sugar, of a quality calculated for the European market, His Excellency in Council begs leave to observe, that although he is uninformed as to the grounds of the Superintendant's conjecture in this respect, His Excellency does not entertain any doubt that the culture of the sugar-cane in that province, (as well as every branch of agriculture and commerce,) will be greatly extended under the British Government. Sugar has always constituted one of the staple commodities of Rohilcund; and the causes which occasioned the gradual decline of the manufacture of that valuable article, during the Nawaub's Government, no longer exist.

22. The Governor-General in Council has the honour of transmitting a letter and enclosures from the Board of Trade, under date the 29th of August; from which your Honourable Court will observe the state of forwardness of the investment ordered to be provided at Mow and Azimghur. His Excellency in Council is persuaded that this statement will be highly satisfactory to you, as far as relates to the provision of piece goods. With regard to the disappointment experienced by the Resident, in the expected provision of sugar in those aurungs in the present season, His Excellency in Council entertains no doubt that in proportion as the general cultivation and population of the district of Goruckpore shall be restored, the culture of the sugar-cane will increase in an equal degree with other articles of produce; and that sugar of a good quality will be hereafter procurable in that district in such quantities as may be required.

(Commercial.) LETTER from Bengal, 13th January 1804.

Commercial. 13th January 1804.

56. On our proceedings of the 27th October is recorded a statement of the distribution of the sum of S.Rs. 1,08,12,510 11 7 allotted for the provision of the investment of the year 1803-4. The sums allotted for sugar are,

In Bengal and Benares, ...	S.Rs. 9,00,000
In the Ceded Provinces, ...	95,687

178. The Governor-General in Council has authorised the manufacture in the present season of 100,000 gallons of rum, at the Honourable Company's distillery at Mirzapore: the estimated expense is stated by the Board of Trade to be Rs. 50,000, exclusively of charges of manufacture.

179. The machinery, &c. of the distillery being stated to require repair, from the discontinuance of the business since the month of January 1801, the Governor-General in Council authorised the necessary repairs, at the estimated expense of S.Rs. 4,080.

(Public: Ceded Provinces.) LETTER from Bengal, 31st December 1804.

Public, 31st Dec. 1804.

28. A letter from the Board of Trade, dated the 30th of December 1803, will inform your Honourable Court of the successful result of an experiment made

made by the late Superintendant of the investment in the Ceded Provinces with 300 maunds of goor or jaggery, the produce of Rohilcund, with a view of ascertaining the practicability of improving the manufacture of sugar made from the goor of that province.

Letters from Bengal Government. Public, 31st Dec. 1804.

(Separate.) LETTER from Bengal, 7th June 1806.

64. On the proceedings of the 16th of January 1806, a letter is recorded from the Honourable the Governor in Council of Bombay, with several documents relative to the abolition of the town duties at Bombay.

Separate, 7th June 1806.

65. The documents which accompanied the foregoing letter left no doubt, in the judgment of the Governor-General in Council, of the inexpediency of continuing the levy of those duties.

66. It was correctly stated by the merchants at that presidency, that the situation of Bombay, with reference to neighbouring foreign ports, and the nature of its trade, is essentially different from that of the other two presidencies. Calcutta and Madras are the capitals of extensive territorial dominions, where there is a great consumption both of their own and of foreign produce and manufactures, and, with comparatively inconsiderable exception, all the goods imported at Calcutta and Madras which are not consumed within the limits of those towns, are conveyed into the interior of our own dominions, where they are subject to the payment of duty.

67. Bombay is chiefly a depôt for goods neither produced, manufactured, nor consumed within the town or the territory attached to it; and it is obviously essential to the encouragement of this transit trade, which forms nearly the whole of its commerce, and on which a considerable duty is levied, that the merchants should be relieved from the inconvenience, and often loss, to which they must necessarily be exposed from the levy of the town duties, whatever may be the precautions observed in the collection of them.

68. The only consideration which appeared to constitute an argument in favour of the continuance of the town duties at Bombay was connected with the immediate state of our finances; but owing to the limited consumption of the town, the amount realized from the town duties at that presidency was too inconsiderable to warrant the hazard of any obstruction to the general trade of the port, by retaining those duties.

69. This consideration, in the judgment of the Governor-General in Council, constituted an objection to the continuance of the town duties of Bombay, which more than counterbalance the benefit derived in a financial point of view from the collection of them, and warranted an opinion that the abolition of them would ultimately prove advantageous to our commercial interests, and consequently to the public revenue, by the augmentation of the established customs of the port.

70. We accordingly recommended that the town duties at Bombay should be abolished.

(Commercial.) LETTER from Bengal, 31st July 1807.

66. On our proceedings of 2d July is recorded a letter from the Board of Trade, under date the 22d of May 1807, submitting a report of the expenses incurred at the Honourable Company's distillery at Mirzapore since the formation of that establishment, in the manufacture of rum, in the repairs of the works, on account of the interest of money, and every other expense, compared with the expenses to which the Honourable Company would have been subjected in purchasing the rum required at the distilleries of individuals.

Commercial, 31st July 1807.

67. According to the most favourable valuation of the Company's property at Mirzapore, it appeared to us that the loss sustained by the employment of the Mirzapore distillery has been very considerable, and we were satisfied that rum could not be manufactured by the Honourable Company at so cheap a rate as it could be purchased from private European distilleries.

68. Under these circumstances, we entirely concurred with the Board of Trade in opinion, that it would be advisable to dispose of the Honourable

Letters from Bengal Government. Commercial, 31 July 1807.

Company's distillery at Mirzapore, and that the rum which might be hereafter required on the public account should be provided as formerly, by publicly inviting proposals for furnishing the quantity required.

69. The Board of Trade has accordingly been authorized to take the necessary measures for disposing of the whole of the Honourable Company's property at Mirzapore, as soon as possible after the manufacture of the rum from the materials then in store at that station shall have been completed.

(Commercial.) LETTER from Bengal, 8th February 1808.

Commercial, 8th Feb. 1808.

7. Copy of paragraph 56 in the Court's commercial letter of the 29th May 1807, stating that the quality of the sugar manufactured in Rohilcund under the care of the Superintendant of Investment was very unequal, and that no satisfactory conclusion could be drawn therefrom, has been transmitted to the Board of Trade for their information and guidance.

(Commercial.) LETTER from Bengal, 3d March 1809.

Commercial, 3d March 1809.

64. The Board of Trade have recommended that an investment of sugar be provided to supply the computed deficiency of dead weight required for the shipping of 1809; but we shall urge to them the expediency of making every practicable exertion to increase the investment of saltpetre to such an extent, as to render the provision of sugar for dead weight unnecessary; and if the latter article should still be required for the purpose, the quantity we hope will be inconsiderable.

65. Upon a representation, however, from the Resident of Soonamooky, we deemed it advisable to authorize the Board of Trade to receive from that officer a surplus quantity of sugar, amounting to Sicca Rupees 40,000, which had been provided at that factory under particular circumstances; but as a small quantity of the article must at all events be required, no inconvenience can be experienced from receiving the sugar in question on the public account.

(Commercial.) LETTER from Bengal, 19th July 1809.

Commercial, 19th July 1809.

45. We have authorized the provision of a small quantity of sugar in the present year to the amount of five lacks of rupees. This quantity appeared to the Board of Trade to be necessary to complete the dead weight which would be required for the ships of the season; and adverting to the state of the London market by the latest accounts from thence, we should not have deemed it proper to authorize the provision even of this small quantity upon any other grounds.

(Commercial.) LETTER from Bengal, 19th July 1809.

Commercial, 19th July 1809.

57. On our proceedings of the 15th April your Honourable Court will find recorded a Report from the Government of Bombay, shewing the gain obtained by the Honourable Company on the sugar which was exported from hence to that Presidency during the last season. The quantity exported was 37,519 bags, on which a profit of Rs. 1,35,000 appears to have been realized; and as the article could not have been exported to Europe with any advantage, we have reason to be satisfied with the result of this consignment.

(Financial.) LETTER from Bengal, 23d August 1809.

Financial, 23d Aug. 1809.

80. The exportation of sugar might be increased very largely if there were a permanent demand for the article; but there is reason to conclude that the markets of Europe will in general be supplied from other quarters.

(Financial.) LETTER from Bengal, 22d October 1810.

Financial, 22d Oct. 1810.

82. Sugar we could have sent to England in large quantity; but we considered ourselves prohibited by the orders of your Honourable Court from making consignments of that article.

(Commercial.)

(Commercial.) LETTER from Bengal, 28th December 1810.

12. Your Honourable Court are apprized that we have a large quantity of sugar in our warehouse at present: but no consignment of the article will be made to England, except for the purpose of supplying dead weight, until we receive instructions from you for its shipment. Letters from Bengal Government. Commercial, 28th Dec. 1810.

(Commercial.) LETTER from Bengal, 28th February 1811.

4. In the event of any sugar being consigned to your Honourable Court, the attention of the Board of Trade has been directed to its being of the best and whitest assortment; and their report has been also required on the quantity of sugar in store of the lower qualities, and on the practicability of an advantageous disposal of it in Calcutta. Commercial, 28th Feb. 1811.

(Commercial.) LETTER from Bengal, 10th August 1811.

80. Under the circumstances of the deficiency of dead weight, as stated by the Board of Trade, we approved of their loading only 4,500 bags of saltpetre on the regular ships, instead of the usual quantity of 5,000 bags; and also of their appropriating the sugar in store, *viz.* 3,000 tons, to complete the dead weight required for the several ships; an arrangement which will necessarily supersede the sale of the sugar contemplated in the 21st and 23d paragraphs of your Honourable Court's letter of the 4th of January last. Commercial, 10th August 1811.

(Commercial.) LETTER from Bengal, 31st August 1811.

34. Your Honourable Court, in your letter of the 23d October 1805, having given the preference to the sugar the produce of Mow and Azimghur, we have, at the recommendation of the Board of Trade, authorized the estimated quantity of sugar required in 1812–13, to be supplied from that factory and Benares. Commercial, 31st August 1811.

35. The 3,000 tons, or Factory maunds 90,000, are estimated to cost six rupees per maund, making an outlay of Rs. 5,40,000; and we have to observe, that should the demand for dead weight in the season 1812–13 fall short of the quantity specified, we shall make arrangements for consigning any sugar that may remain to Bombay, where we have reason to believe it may meet with a favourable sale.

(Commercial.) LETTER from Bengal, 6th December 1811.

27. The sum of S.Rs. 5,40,000 has been allotted for the provision of an investment of the finer sorts of sugar; under the apprehension that a sufficient quantity of saltpetre for the purpose of furnishing dead weight for the ships of the ensuing year will not be obtainable. Commercial, 6th Dec. 1811.

(Commercial.) LETTER from Bengal, 21st November 1812.

10. Orders have been issued to the Board of Trade, that whatever quantity of sugar might be laden as dead-weight, must be of the finer assortment only. Commercial 21st Nov. 1812.

(Commercial.) LETTER from Bengal, 1st April 1813.

5. We directed the Board of Trade to be careful that the sugar required in the current year might be manufactured exclusively at those factories which afford sugar of the strongest grain, and of a clear white colour, and that no soft or paste-like sugar be consigned to England Commercial, 1st April 1813.

13. Assignments have been issued for S.Rs. 1,00,000 in favour of the Residents of Benares and Mow and Azimghur, in equal proportions, on account of the provision of sugar; and as the quantity which it may eventually be requisite to provide will depend upon the reduction which the Board may accomplish in the article of saltpetre, we observed to the Board, that the only additional order respecting the supply of sugar at present necessary was to desire that, agreeably to the directions of your Honourable Court, contained in your letter of the 26th of June last, paragraph 34, they be careful that none but the very best quality be consigned to England.

(Commercial.)

Letters from Bengal Government.

(Commercial.) LETTER from Bengal, 2d October 1813.

Commercial, 2d October 1813.

41. A quantity of sugar was consigned to this presidency from Java, on the extra ship Diana; but as it was reported to be of a quality considerably inferior to what is usually consigned to England, we concurred in opinion with the Board of Trade, that it would be expedient to send only a small quantity, as a specimen for the inspection of the Honourable Court; and we observed, that for this purpose, a few bags would be sufficient, instead of twenty tons, as proposed by the Board.

(Commercial.) LETTER from Bengal, 5th July 1817.

Commercial, 5th July 1817.

21. It appearing that the sum which had been allotted for the provision of sugar at Benares in the current year would be insufficient to provide the quantity of that article ordered by your Honourable Court (1,000 tons), we have, with reference to this consideration and an apprehended deficiency in the article of saltpetre, authorized a supply of sugar to the full extent mentioned in your indent; and the sum of S.Rs. 61,552 1 4 has accordingly been appropriated for the purpose, in addition to the amount formerly allotted for the provision of this branch of the investment.

(Commercial.) LETTER from Bengal, 31st July 1820.

Commercial, 31st July 1820.

19. We have furnished the Board of Trade, for their information and guidance, with copy of the instructions in your letter of 22d July 1819, relative to the provision of 2,500 tons of sugar on account of dead weight for the ships of the season 1821-22.

LETTER from Mr. Secretary Lushington to Mr. Secretary Dart, 26th Jan. 1821.

Commercial, 26th January 1821.

1. The Board of Trade have been authorized to issue an advertisement, inviting tenders of tonnage for the conveyance to England of such portion of the sugar as may remain for transmission after the dead weight of the Honourable Company's ships shall have been completed.

(Commercial.) LETTER from Bengal, 4th January 1821.

Commercial, 4th January 1821.

35. In consequence of a communication from the Territorial Department, a reference was made to the Board of Trade, for the purpose of ascertaining whether, under the existing expediency of remitting, as largely as possible, in aid of the Home treasury, arising from the heavy amount of the bills in payment of interest which would probably be drawn on your Honourable Court in the current year, any mode of extending the Indian investment afforded prospect of advantage.

36. From the communications received from the Board in reply, your Honourable Court will observe, that sugar was considered by them to be one of the most advantageous articles of remittance.

41. We have authorized the purchase, by the Commercial Resident at Benares, of 9,000 maunds of sugar, for the purpose of its being consigned to England, the estimated amount of the cost and charges of the sugar is S.Rs. 78,750.

(Commercial.) LETTER from Bengal, 2d April 1821.

Commercial, 2d April 1821.

13. In the 41st paragraph of our commercial letter dated the 4th January last, we intimated to your Honourable Court that we had authorized the purchase by the Commercial Resident at Benares of 9,000 maunds of sugar, in order to the consignment of the article to England.

We regret, however, to state, that by a recent communication from the Board of Trade, it appears that circumstances had occurred to disappoint the expectations formerly entertained by the Resident of Benares of being able to supply 9,000 maunds. We concur with the Board in believing, that the disappointment has not arisen from any want of exertion on the part of the Resident to accomplish the purchase in question.

(Commercial.) Letter from Bengal, 1st October 1821.

Letters from Bengal Government. Commercial, 1st October 1821.

10. The Board of Trade were desired to take timely measures for the provision of the quantity of sugar required by your Honourable Court in the 14th paragraph of your letter of the 9th February 1821.

LETTERS FROM MADRAS.

(Commercial.) Letter from Madras, 2d May 1793.

Letters from Madras Government. Commercial, 2d May 1793.

40. We have received an account from Doctor Roxburgh, of the method observed for the culture of the sugar-cane in the Masulipatam and Ganjam districts; and as it will be satisfactory to your Honourable Court to learn his opinion of the advantages to be derived from increasing this branch of agriculture, we forward a copy of his letter in the packet for your information.

41. By Dr. Roxburgh's account, the cane of this country yields more than double the produce of that in the West-India islands. The price of labour here is much lower, and the cane is not so liable to accidents as in Jamaica. The great sugar crop also happens at a season of the year unfit for the cultivation of grain, and the only desideratum appears to be an improvement in the manufacture, by the introduction of the sugar-works used in the West-Indies.

See Third Appendix to these papers, p. 1.

42. The present produce of the Masulipatam district, Dr. Roxburgh considers to be about one-quarter part of the quantity manufactured at Jamaica, but that with encouragement the plantations might be increased to any extent.

43. We forward in the box apart samples of the sugar manufactured in the Rajahmundry circar.

(Commercial.) Letter from Madras, 25th July 1794.

Commercial, 25th July 1794.

3. We furnished the Board of Trade with a copy of the letter from the Secret Committee the 23d October 1793, and directed them to report how far it might be practicable to secure any quantity of sugar from the northern settlements, with the prices at which it can be procured.

4. We also authorized the Board of Revenue to hold out every proper encouragement to the manufacturers of sugar in your own possessions, but particularly in the northern circars.

(Revenue.) Letter from Madras, 2d October 1795.

Revenue, 2d October 1795.

108. At our Consultations of the 14th August, the Board of Revenue, in compliance with the request of Captain Read, submitted to our consideration a letter from that gentleman, accompanied by their own remarks, relative to a proposal made by two of his assistants, Messrs. Munro and Macleod, to rent a district in the ceded country, for the purpose of introducing and extending the culture of cotton, sugar, and indigo.

109. The Board of Revenue have gone into reasoning at large against the recommendation of Captain Read; and as we concur with them entirely in the impolicy and impropriety of such a measure, we had no hesitation in rejecting it.

(Revenue.) Letter from Madras, 23d February 1796.

Revenue, 23d Feb. 1796.

10. We are exceedingly happy that the examination of the Ganjam sugar has proved so favourable to its quality, as induces your Honourable Court to hold out encouragement for the manufacture of this article.

11. We have already advised you that the contract for providing sugar at Ganjam amounts to one lack of rupees, and we beg leave to refer you to the paragraphs of our commercial letter of this date for our farther sentiments upon the subject. We shall here only remark, that the extension of this manufacture in your northern circars must be extremely beneficial to those

Letters from Madras Government.

valuable possessions, by establishing a commodity for exportation, the purchase of which upon the spot must necessarily diminish an evil of very serious magnitude (the inevitable exportation of specie from that part of your territories).

Revenue, 23d Feb. 1796.

(Commercial.) LETTER from Madras, 23d February 1796.

Commercial. 23d Feb. 1796.

86. At our Consultation of the 8th January the Board of Trade submitted to our consideration a plan recommended to them by the Deputy Commercial Resident at Ganjam for providing sugar. The object of Mr. Mackenzie was to remove the necessity of employing contractors, and to procure the sugar of those districts, by receiving it from the cultivators into the warehouse in kind instead of rent.

87. As the first part of this system entirely coincides with our opinions in regard to the best mode of providing an investment, we had no hesitation in authorizing Mr. Mackenzie to carry it into immediate execution, by making agreements with the manufacturers themselves instead of employing the agency of contractors; and we desired the Board of Trade to inform this gentleman that we observed with pleasure the zeal which he had shewn for the interest of the Company.

88. In regard to the mode of providing sugar by receiving it in kind instead of rent, we deemed it liable to so many objections, on account of the interference which it would create between the Revenue and Commercial departments of your service, as effectually prevented us from acquiescing in the proposal.

(Revenue.) LETTER from Madras, 16th October 1797.

Revenue, 16th Oct. 1797.

42. Having received from Mr. Brown, the Collector at Vizagapatam, an address of some length upon the cultivation of sugar-cane in that district, we referred it for the inquiries and consideration of your Board of Revenue, and at our Consultation of 28th July, we received from them a very able and intelligent report, which we beg leave to point out to your notice.

These papers will be found in the First Appendix.

43. We were extremely well pleased that the result of this inquiry into the manufacture of sugar in the district of Vizagapatam had proved favourable to the opinions and experiments of the Collector; we therefore directed the Board of Revenue to acquaint Mr. Brown, that we had a just sense of the zeal which he had manifested for the Company's interest, and for the particular improvement of the districts under his own immediate charge. And adverting to the particular orders of your Honourable Court for the encouragement of this article of commerce, we directed that the Collectors of Ganjam and Vizagapatam should be authorized to take such measures as might be judged most conducive to an extended cultivation of the cane, and the manufacture of sugar within their respective districts.

Revenue, 20th Feb. 1798.

(Revenue.) LETTER from Madras, 20th February 1798.

71. At our Consultation of the 15th December, the Board of Revenue submitted to us the result of their correspondence with Colonel Read, upon the subject of introducing into the Ceded Districts the culture and manufacture of sugar, rum, indigo, cotton, and cochineal, with their observations in regard to the expediency of purchasing or not, on the Company's account, sugar and rum from a Mr. Lyte, who has formed the plantation; the practicability of transporting the sugar from the Ceded Districts by navigating the river Cavery, and the eligibility of employing a Lieutenant Fowlis, formerly a West-India planter, as suggested by Colonel Read.

72. Fearing that it might not be advantageous to take the sugar and rum of the Tripatoor plantation on account of the Company, we approved the transfer of it to Mr. Lyte, with permission to dispose of the produce as he might prefer.

73. With regard to the other plantations, we remarked that although it was satisfactory that the produce of them could be conveyed by water to the coast, yet, uncertain as we were how far these speculations, to the extent suggested by the Collector, might meet the approbation of your Honourable Court, we desired that the plantations should, mean time, be maintained upon the most economical plan, or disposed of to individuals for a temporary period.

74. We

74. We authorized the expenses incurred by the Collector on account of those plantations, amounting to Pagodas 6,259, to be discharged; though it would appear that the cost to the Company on that score will be only 1,920 pagodas.

Letters from Madras Government.

Commercial, 20th Feb. 1798.

(Revenue.) LETTER from Madras, 15th October 1798.

Revenue, 15th October 1798.

66. In our letter of the 16th October 1797, we acquainted your Honourable Court that Mr. Brown, your Collector in the 1st division of Vizagapatam, had suggested to us a plan for the manufacture of sugar in that district, which we had approved; and authorized him, as well as the Collector at Ganjam, to extend the cultivation of the cane and the manufacture of sugar in their respective districts.

67. In consequence of Mr. Brown's successful exertions for this purpose, the Board of Revenue, at our Consultation of the 21st September, recommended that Mr. Parkinson, who had lately been employed, and conducted himself very satisfactorily, at your silk filature at Vellout, might be appointed to superintend the sugar manufactory under Mr. Brown, as he is well acquainted with the process of distilling rum in use in the West-Indies and in Bengal, and very essential benefit might be derived from his knowledge and industry in this way.

68. As we were desirous of affording every encouragement to the manufacture of sugar at Vizagapatam, we concured in their recommendation of Mr. Parkinson for this purpose, upon a salary of 50 pagodas per mensem.

(Commercial.) LETTER from Madras, 14th April 1800.

Commercial, 14th April 1800.

15. At our Consultation of the 7th February, we received a letter from your Board of Trade, accompanied by proposals for the future provision of the investment of Ganjam sugar by Mr. William J. Colley, who during a residence of some years in that district has been particularly engaged in the manufacture of that article.

Vide the First Appendix.

16. Considering the recommendation of the terms offered by Mr. Colley, as stated by your Board of Trade, as well as the favourable mention made by your Honourable Court of the investment of Ganjam sugar, in your letter of the 2d March 1798, we have thought it expedient to afford public encouragement for the manufacture of that article by a sufficient advance of cash to Mr. Colley: but have provided that the manufacture of the sugar shall be at the risk of Mr. Colley, and that the engagement recommended by your Board of Trade should not exceed the purchase of such sugar as he shall produce.

62. The Board of Trade submitted to us a proposal of Mr. Edward Campbell (whom your Honourable Court permitted to proceed to India for the purpose of extending the manufacture of sugar), to deliver forty thousand maunds of sugar, manufactured in the district of Coimbatoor, at the rate of $46\frac{1}{2}$ fanams per maund, inclusive of charges. This price exceeds by about ten per cent. the expense of sugar manufactured at Ganjam; but the Board of Trade considered it moderate from the superior quality of Mr. Campbell's sugar, and from the additional expense to which every new establishment is liable.

63. Your Honourable Court having, in your dispatch of the 17th April 1799, directed our particular attention to this object, and as it appeared by the last account sales from England that sugar continued to be sold at advanced prices, we authorized the Board of Trade to accept Mr. Campbell's proposal to the extent of forty thousand maunds of sugar, to be delivered in the year 1801, and have given orders for transmitting to England samples of the manufacture.

(Revenue.) LETTER from Madras, 9th October 1800.

Revenue, 9th October 1800.

14. Your Honourable Court will have been informed by our dispatches from the Commercial Department of the extension of the manufacture of sugar in the province of Ganjam; but with respect to the cultivation of the cane in the district of Vizagapatam, we have been compelled, notwithstanding the zealous and meritorious exertions of the late Collector, Mr. William Brown, to abandon the project, lest the enhancement of the price of the sugar should entail on the Company

Letters from Madras Government.

pany an expense disproportioned to the advantage expected to be derived to the cultivators of the cane. We are happy to add, that the establishment of the sugar-plantation in Dindigul under Mr. Campbell affords a reasonable prospect of success to that gentleman, and of benefit to the country."

Commercial, 9th Oct. 1800.

(Commercial.) Letter from Madras, 15th October 1801.

Commercial, 15th Oct. 1801.

49. We are concerned to inform your Honourable Court that Mr. Edward Campbell, with whom, as stated in our letter of the 9th October last, we had concluded a contract for the supply of sugar, has failed in the time stipulated for the delivery of the sugar.

50. The reasons which have been assigned by Mr. Campbell for this disappointment discourage the expectation of success in the farther prosecution of the undertaking; but we have agreed to extend to the 15th of January next the term allowed for the completion of the contract, and have directed the Board of Trade to call upon Mr. Campbell's securities to renew their obligation.

(Commercial.) Letter from Madras, 17th February, 1802.

Commercial, 17th Feb. 1802.

67. Mr. Campbell has again, we are sorry to inform your Honourable Court, completely failed in his engagements; but being convinced that his failure has been occasioned by unavoidable circumstances, and not by any neglect on his part, and that gentleman having removed the greatest bar to a compliance with his request, by offering to become responsible for all wastage by keeping, we have, at the recommendation of the Board of Trade, granted Mr. Campbell a further period of time: and we trust it will have the desired effect.

(Commercial.) Letter from Madras, 20th October 1802.

Commercial, 20th Oct. 1802.

50. We have also been induced, in consideration of the many difficulties with which Mr. Campbell had to contend at the outset of his undertaking, to relieve him and his securities from the penalties which they had incurred by a failure in his contract for the delivery of 40,000 maunds of sugar to the Company, on his paying the balance due, being St.Pags. 1,798 21.

51. We have since, at Mr. Campbell's request, exempted the rum manufactured at his works on this coast from the payment of all duties not levied on that article when imported from the possessions of the Honourable Company in Bengal and at Bencoolen.

(Commercial.) Letter from Madras, 23d March 1802.

Commercial, 23d March 1802.

21. Some objections which the Collector, Mr. Brown, submitted against the existing contract with Mr. Colley for the manufacture of sugar in the Ganjam district, were referred for the consideration and report of the Board of Trade.

(Commercial.) Letter from Madras, 22d February 1803.

Commercial, 22d Feb. 1803.

28. At our Consultation, 24th December, the Board of Trade stated to us that an immediate advance of 15,000 rupees was required by Mr. Colley, the sugar contractor at Ganjam, to enable him to make the necessary advances to the cultivators of the sugar-cane, to insure the produce of their gardens for the investment of the ensuing year; the total amount of which would be Rs.50,000.

29. That although, in the agreement entered into with that person for the period of five years, no positive stipulation was made that the Company were to continue to furnish advances, yet that agreement was implied; and they therefore recommended that the required sum should be advanced, lest in the event of a disappointment at present, Mr. Colley should form other engagements, which might preclude him from again accepting conditions equally advantageous to the Company, and thereby render it extremely difficult to renew a contract for this article.

30. Under these considerations, we were induced to accede to the Board of Trade's request, and accordingly directed that the necessary steps should be taken for furnishing Mr. Colley with the sum required.

(Revenue.) Letter from Madras, 23d March 1804.

278. We received from Mr. Edward Campbell, the gentleman permitted by your Honourable Court to proceed to Madras for the purpose of extending the manufacture of sugar on this coast, an application for permission to farm some lands in the province of Trichinopoly, which application was strongly recommended by the Collector to our favourable consideration.

Letters from Madras Government. Revenue, 23d March 1804.

279. We had rejected a former application from Mr. Campbell of the same nature, on the ground of the general objections which exist to granting lands in farm to Europeans, and on account of the reluctance which had been evinced by the inhabitants to undertake the cultivation of sugar-cane; but as the request had been relieved from the latter objection by the consent of the inhabitants to cultivate the sugar-cane, we were induced, in consideration of the circumstances under which Mr. Campbell had engaged in the culture of sugar, to wave the former objection, and to extend to him every practicable assistance, by granting to him the lands which he had pointed out on lease for the term of ten years, at a rent of St. Pags. 2,062 3 25 per annum, which the Collector had stated to be adequate to the value of the villages.

(Commercial.) Letter from Madras, 16th October 1804.

81. Your Honourable Court have been informed, in different dispatches from this Government, of the support which has been given to Mr. Edward Campbell, in his attempts to establish a sugar-manufactory in the southern provinces, and of the unfavourable result which has hitherto attended that gentleman's experiments.

Commercial, 16th Oct. 1804.

82. Having, however, received from the Board of Trade a further recommendation in Mr. Campbell's favour, we have permitted that Board, according to their proposal, to guarantee to Mr. Campbell a price equal to 41 fanams per maund for all sugar of an approved quality which he may hereafter tender, and to purchase a quantity which was tendered in submitting the proposal to which we have referred, provided that Mr. Campbell consented to reduce the valuation of the tender to a price corresponding with the rates at which sugars could be purchased in this market.

(Commercial.) Letter from Madras, 21st October 1806.

118. Having received from Mr. Edward Campbell, who was permitted by your Honourable Court to proceed to India for the purpose of manufacturing sugar, an application for the same assistance in the manufacture of indigo as had been granted to Colonel Cullen, we referred the application to the Board of Trade. But that Board having in their reply recurred to four restrictive orders, relative to the pursuits of Mr. Campbell, we decided that his request could not be complied with.

Commercial, 21st Oct. 1806.

119. Mr. Campbell, in a subsequent letter, submitted a further explanation of the terms on which he had been permitted by your Honourable Court to proceed to India, particularly with reference to the condition specified in the indentures executed by him; and urged different arguments in support of the permission, which he solicited to be allowed to extend his pursuits beyond the manufacture of sugar, which he stated that he had no intention of relinquishing.

Mem. *The decease of Mr. Campbell closed this undertaking.*

120. On a general view of the case, we agreed to comply with Mr. Campbell's request, under the condition, however, that he was to expect no advances from the Company.

(Commercial.) Letter from Madras, 6th February 1810.

188. At our Consultation of the 3d of February last, we received a letter from Mr. W. J. Colley, stating that, in consequence of the expensive machinery which he had purchased, he was left without means of procuring the necessary materials for continuing the manufacture of sugar and rum at Ganjam. He therefore requested that we would afford him assistance, either by means of a loan of money to be repaid with interest, or by renewing the contract in which he was formerly engaged, and of which your Honourable Court expressed your disapprobation in your letter of the 10th April 1805.

Commercial, 6th Feb. 1810.

Letters from Madras Government.

189. Mr. Colley's request having been referred for the opinion of the Board of Trade, which proved unfavourable, we informed him that it could not be acceded to.

Commercial, 6th Feb. 1810.

190. We also received from Mr. Philip Skelton a letter, requesting to be informed whether we were disposed to afford encouragement to the manufacture of sugar and rum at Mangalore, by ensuring for a limited period a market for the whole or a part of the produce.

191. The Board of Trade, to whom the request was referred, stated that the Government had it not immediately in their power to allow Mr. Skelton a participation in the supply of spirituous liquors required for the public service, even if such a measure should on inquiry be found advisable; and that, with regard to the sugar, particular information as to the quality and price at which Mr. Skelton would engage to furnish that article, was necessary to enable them to form an opinion how far it might be consistent with the orders of your Honourable Court to give encouragement to the proposed manufacture.

(Revenue.) LETTER from Madras, 5th January 1816.

Revenue, 5th Jan. 1816.

122. At our Consultation of the 11th September, there was laid before us a communication from the Board of Revenue, relating to sugar and sugar-candy manufactured in the districts of Cuddapah and Ganjam. Agreeably to the recommendation of the Board of Revenue, a reference was made to the Board of Trade, in order to ascertain their opinion as to the quality of the specimens of those articless that had been received, and the expediency of affording encouragement to the manufacture of them. We have not yet received their report.

(Revenue.) LETTER from Madras, 10th January 1817.

Revenue, 10th Jan. 1817.

114. With reference to the 122d paragraph of our letter of the 5th of January 1816, we beg leave to inform your Honourable Court, that the report therein stated to have been called for from the Board of Trade was laid before us at our Consultation of the 15th March last.

115. It appeared, that the Board of Trade did not think any advantageous consequences could be expected from such encouragement in a commercial point of view; but they left the question of its expediency, as a measure of revenue policy, to the determination of Government and the revenue authorities. We caused a copy of the report in question to be transmitted to the Board of Revenue for their information.

LETTERS FROM BOMBAY.

(Revenue.) LETTER from Bombay, 21st December 1792.

Letters from Bombay Government.

Revenue, 21st Dec. 1792.

2. We have great satisfaction to acquaint you, that Messrs. Helenus Scott, Robert Stewart, and John Twiss, have undertaken to introduce the cultivation of sugar and indigo on the Island of Salsette, with very sanguine expectations of success; and we beg leave to assure you, that we shall give proper encouragement to a scheme which is so likely to prove beneficial to your interests.

(Commercial.) LETTER from Bombay, 14th August 1801.

Commercial, 14th August 1801.

37. We beg leave to submit a No. in the packet, a report by Doctor Helenus Scott on sundry articles, the produce of his and a neighbouring estate on Salsette, which are also submitted for the inspection of your Honourable Court. The articles are: four hogsheads of Poway arrack; one ditto of muscavado sugar from Poway; a specimen of Bandoop cotton from Guzerat seed.

The whole shipped on the Melville Castle. Of the former and latter we shall be happy to be favoured with your Honourable Court's sentiments, and particularly of the Poway spirit; which differs in its composition from all other Indian arrack.

(Public.) LETTER from Bombay, 14th August 1801.

Letters from Bombay Government. Public, 14th August 1801.

25. His Excellency the Most Noble the Governor-General in Council having directed us to establish and collect town-duties at Bombay, in addition to the Government customs, on the principle of those levied at Calcutta, with a view to the augmentation of the public revenue, His Excellency's instructions on the occasion are herewith submitted. A Committee of experienced servants has been appointed, to consider the most advisable means of carrying His Lordship's orders into effect, and to state the articles of import into Bombay which, in their opinion, might, with the least public inconvenience, be subjected to this additional tax. The Committee's report has been received, but as our inquiries on this head are not yet complete, we shall defer communicating our ultimate determination until a future opportunity.

(Public.) LETTER from Bombay, 22d December 1801.

Public, 22d Dec. 1801.

75. Your Honourable Court will learn from the 25th paragraph of our address (public department) of the 14th August 1801, the state of our proceedings in respect to the town duties ordered to be levied at this port by His Excellency the Governor General in Council. Having since ordered the adoption of the rule as far as regarded the articles contained in His Excellency's first letter to us on the subject, we beg leave to request your attention to our further proceedings on this subject in our Public Consultations, 9th October 1801; and the more particularly, as the measure had been remonstrated against by the body of merchants here, on grounds which may ultimately require some modification at least of the present order.

(Public.) LETTER from Bombay, 30th June 1802.

Public, 30th June 1802.

68. Some further proceedings having occurred here in respect to the town duties last noticed to your Honourable Court, in the 75th paragraph of our address of the 22d December 1801, we beg leave to submit them to your Honourable Court's notice, as in our Public Consultations of 11th January and 18th February inclusive of our orders thereon, confirming the levy of these duties, until, on further experience, it shall be ascertained how far the same are, or are not, liable to the objections ascribed to them by the body of merchants.

(Public.) LETTER from Bombay, 5th February 1803.

Public, 5th Feb. 1803.

128. In the 75th paragraph of our address to your Honourable Court in this department, of the 22d December 1801, we adverted to the orders that had been issued by us on the 9th of October preceding, for the collection of town duties, and to a consequent memorial from the merchants; notwithstanding which letter, it was determined, as per proceedings of the 11th of January 1802, that no alteration should take place in the system, until after further experience it should be ascertained how far it was liable to the objections thus stated to exist; at the same time that the Custom-Master was required to frame and submit to us such regulations for the levy of that duty as should appear to him best calculated to give effect to the system, with the least possible inconvenience to the merchants.

129. Since that period Mr. Henshaw, the present Custom-Master, has laid before us a report on this subject, accompanied by drafts of proposed regulations, as well for that branch of his duty as for the general conduct of the business of that department. The information contained in those papers will, we doubt not, appear to your Honourable Court to convey satisfactory evidence of the zeal and attention evinced by the Custom-Master in the execution of our orders.

130. Objections to the levy of town duties were, however, about this time revived from the merchants in a letter, which will be found to stand entered on our Consultations of the 3d and 22d Sept. 1802, the subject of which was in the first instance referred to the Custom-Master; and preparatory to a final decision thereon, the Accountant General was at the same time called upon to lay before us the

Letters from Bombay Government.

Public, 5th Feb. 1803.

the report which he had previously been required to make, on the various suggestions contained in the letter, with accompaniments, from Mr. Henshaw, to which we have already referred. The answer to the last of those references consists of a series of observations by our Accountant-General, in which he has not only evinced a perfect acquaintance with the subject under discussion, but afforded also various important lights connected with the trade of this port. Mr. Henshaw's remarks on the memorial from the merchants, also stand entered on our Consulations, 28th December 1802.

131. After having maturely considered the several provisions and modifications suggested by the Custom-Master and by the Accountant-General, we passed the orders and resolutions thereon that stand recorded in the same Consultation; and afterwards appointed a Committee, of which our colleague, Mr. Cherry, undertook at our desire the office of president, for the purpose of drawing up an amended form of regulation, founded on the drafts so meritoriously proposed by those gentlemen, combined with our own resolutions thereon. In perusing which latter, your Honourable Court will observe that, whilst it has been our opinion that, from the peculiar situation of Bombay as an emporium, any material increase in the rates of customs collected on its present flourishing commerce might check its further progress, and even endanger in some degree the prosperous condition to which it has of late years attained, we have at the same time not abstained from authorizing an additional levy in the department of town duties, on such articles of this established trade as promise, without detriment to commerce or oppression to the merchants, to become available sources of public revenue.

Duties upon Indian commodities, imported into Indian settlements for consumption, re-enacted.

(Public.) LETTER from Bombay, 7th April 1803.

Public, 7th April 1803.

2. In continuation of the subject of our proceedings respecting the proposed modification of the system in force for the levy of town duties, as last treated of in the 131st paragraph of that address, we beg leave to refer to our Consultation cited in the margin, for an amended Regulation for the collection of these duties, as drafted for our approbation by the Committee mentioned in that address. This regulation, of which your Honourable Court will receive printed copies by the present dispatch, has been confirmed by us; as have also the other suggestions offered by that Committee, in the letter from them which immediately precedes it on our records.

Con. 4 Feb. 1803.

(Public.) LETTER from Bombay, 31st August 1803.

Public, 31st August 1803.

43. Having already advised your Honourable Court, in our general dispatches of the 5th of February and 7th of April, that the regulations we had passed respecting the additional duties referred to in paragraph 10 of your letter of the 26th January 1803, must tend, we trust, to obviate the reasonable objections of the merchants: it is our intention, in pursuance of the discretionary latitude which your Honourable Court's present orders vest us with, to await a little longer the test of further experience, or your ultimate commands, previously to our making any alteration in the custom-house system now in force. The regulation under which the town duties are collected, as adverted to in our address of the 7th of April, has been confirmed by a letter from the Secretary to the Governor-General in Council, which is recorded on our proceedings in the Judicial Department of the 21st of June.

(Commercial.) LETTER from Bombay, 10th August 1804.

Commercial, 10th August 1804.

39. Paragraph 57 of your letter of the 24th June 1803, with report on some sugar and arrack sent home from Dr. Scott, was communicated to Dr. Scott for his information.

(Public.) LETTER from Bombay, dated 26th February 1805.

Public, 26th Feb. 1805.

86. In the 43d para. of our address of 31st August 1803 we adverted to the orders of your Honourable Court, authorizing the eventual abolition of the town duties, then recently established at this presidency, and referred, at the same

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same time, to our former correspondence, as shewing the particulars of the discussions that had taken place on the establishment of a new regulation for that purpose, inclusive of the previous objections of the merchants to this new levy; noticing further, that we should await the test of further experience, under the operation of the modified rules thus passed and afterwards confirmed by the Supreme Government, before we should make any alteration; not long after which, however, the inconveniences and unavoidable restrictive precautions incident to the system were discussed in a further address from the merchants, for which, with the consequent correspondence, and a further report from the Custom-master, under date the 18th of December 1804, on Public Consultations, 19th February 1805, we beg to refer; the last mentioned document, noticing the principle on which the Custom-master had been enabled to effect an adjustment with them, on account of deposits made previously to the promulgation of the town duty regulation of February 1803.

87. Proceeding further to consider of this unpopular impost, in view to the apprehension expressed by your Honourable Court of its proving detrimental to the commerce of this port, we had before us a summary (recorded in Public Consultation, 19th February 1805) of the leading points of the correspondence affecting the question since October 1801, the period when town duties have been established at this port; but as that document does not contain the materials requisite to form a definitive judgment how far the town duties may have hitherto decreased or otherwise, (because prior to the formation of the regulation in 1803, those duties were collected by a larger standard of the estimate than the merchants are willing to admit they would have amounted to, if realized, in due course, in the manner directed in that regulation;) the Custom-master has been directed to submit a comparative view of these collections for the last two years, or from the commencement of the equal and uniform operation of the regulation in February 1803; and to enumerate in one comparative table every article on which these duties have been exacted, stating besides the difference in each year, (the drawback being calculated on the gross receipt) a document which will prove the most satisfactory, that the state of our information and the manner in which the duty has been hitherto collected can at present admit of; and which, when received, it is our intention to submit for the consideration of His Excellency the Governor-General in Council, with such observations as a consideration thereof may suggest. Since the regulation having been confirmed by the sanction of the Supreme Government, and the measure itself having likewise originated with the same authority, we conceive it will be most in the spirit of your Honourable Court's directions, that the decision, as to the continuance or otherwise of these dues, should rest with His Excellency in Council; the more especially as their being abolished here might lead to consequent applications for the like relief at the other presidencies. But we will not delay this reference; and trust to be able shortly to advise your Honourable Court of the result.

(Commercial.) LETTER from Bombay, 25th February 1807.

174. We have the honour to submit to your Honourable Court's particular consideration, copy of a correspondence that has taken place between us and Doctor Scott, the proprietor of Powey estate, on the island of Salsette, on the subject of our admitting sugar, the produce of that estate, to be laden as dead weight on the Honourable Company's ships dispatched from this side of India. Having referred that proposal for the opinion and report of the Accountant-General, to be accompanied by a comparative statement between the price of the Salsette muscovado and the sugar received from Bengal for the dead weight of the Company's ships, your Honourable Court will observe that the Accountant has estimated that there is an enhancement in the price of Doctor Scott's sugar, beyond that of the last importation from Bengal, of about rupees eighty-nine three quarters and eleven reas per ton.

175. Doctor Scott having questioned the data on which the Accountant-General's estimate was founded, we have the honour to refer his letter on the occasion to the consideration of your Honourable Court, having ultimately declined taking any of the article on account of the Company, from having no grounds to ascertain whether the purchase was likely to turn out a profitable

Letters from Bombay Government.

Commercial, 25th Feb. 1897.

This ended in no useful result.

or losing concern; at the same time that we have expressed our readiness to accept of a small quantity at the price he has proposed, to enable your Honourable Court to determine on the eligibility of entering into an agreement for the supply of this article; in respect to which it is no doubt desirable to encourage a speculation, which holds out the prospect of enabling us to supply the Company's ships with dead weight from the produce of our own territories, and thus to relieve us from the inconvenience and risk to which a dependance for a supply on Bengal necessarily leads. Musters of the muscovado will be forwarded by a subsequent opportunity.

(Commercial.) LETTER from Bombay, 15th April 1809.

Commercial, 15th April 1809.

49. We have the pleasure to inform your Honourable Court that, under the instructions conveyed in the 3d paragraph of your dispatch dated 7th September, we invited tenders for the purchase of the Bengal sugar in store, inclusive of a further quantity that had been consigned from that presidency to serve as dead weight for the extra ships destined to Bombay, of which we have a sufficient supply for three vessels in saltpetre, and have disposed of 37,519 bags at a clear profit to the Honourable Company of Rs. 1,35,652.

(Commercial.) LETTER from Bombay, 30th May 1812.

Commercial, 30th May 1812.

186. Paragraphs 2 to 25 of your letter of 11th September 1811, require no further remarks than the expression of our regret, that the inability of the Supreme Government to furnish us with any saltpetre in the present season may probably reduce us to the necessity of including a proportion of sugar in the dead weight which may be required for the regular and extra ships: an alternative, however, which we shall be careful to avoid as far as may be practicable.

THIRD APPENDIX

TO

REPORT ON THE SUGAR TRADE.

WRITINGS OF SCIENTIFIC PERSONS IN INDIA AND OTHER AUTHORS ON THE SUGAR TRADE.

AN ACCOUNT of the Hindoo Method of Cultivating the SUGAR CANE, and Manufacturing the Sugar and Jagary, in the Rajahmundry Circar, interspersed with such Remarks as tend to point out the great Benefit that might be expected from increasing this Branch of Agriculture and improving the quality of the Sugar; also the Process observed by the Natives of the Ganjam District in making the Sugars of Barrampore. By Dr. WILLIAM ROXBURGH.

Roxburgh on the mode of cultivating and manufacturing sugar.

No pursuit is more pleasing to the benevolent mind, than such as tends to add a new source of happiness to man.

Amongst the natives of India, the transitions from one stage of improvement to another are so exceeding slow, as scarce to deserve the name; except it be the few who have benefited by the example of Europeans. They naturally possess a strong disinclination to departing from the beaten path, established from time immemorial; however, when they see a certain prospect of gain with little additional trouble, they have frequently been known to adopt our practices. We ourselves ought more generally to keep in view, and to instil into their minds this maxim, that every new proposition, merely on account of its novelty, must not be rejected, otherwise our knowledge would no longer be progressive, and every kind of improvement must cease.

At a period like the present, when the importation of East-India sugar has become so much an object of importance to Great-Britain, in consequence of the present state of some of the best of the West-India sugar islands, every inquiry that may tend to open new sources from whence that wholesome commodity can be procured at the cheapest rate, is of a national import.

I believe there are few districts in the Company's extensive possessions, where there will not be found large tracts of land fit for the culture of sugar-canes; but I know, from experience, the introduction of a new branch of agriculture amongst the natives to be attended with infinite trouble, therefore where we find a province or district, in which the culture of the cane and making of sugar has been in practice from time immemorial, there we may expect, without much exertion, to be able to increase the culture, and improve, if necessary, the quality.

In the Northern Provinces or Circars, as well as in Bengal, Cadapah, &c. large quantities of sugar and jagary are made. It is only in the Rajahmundry and Ganjam districts of these Northern Provinces, where the cane is cultivated for making sugars. I will confine my observations to the first, where I have resided between ten and eleven years.

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This branch of agriculture in the above-mentioned Circar is chiefly carried on in the Zemindarries of Peddapore and Pettapore, along the banks of the Elyseram River, which, though small, has a constant flow of water in it the whole year round, sufficiently large not only to water the sugar plantations during the driest seasons, but also a great variety of other productions, such as paddy, ginger, turmerick, yams, chillies, &c. This stream of water during the driest season, renders the lands adjoining to this river of more value, I presume, than almost any other in India, and particularly fit for the growth of sugar-cane. By the bye, permit me to observe, that of all the parts of India that I have seen, this seems the best suited for the culture of the mulberry and rearing silk-worms, as well on account of the cheapness of labour and the general abundance of provisions for the natives, as for the soil, climate, and situation.

But to return to the culture of sugar. In these two zemindarries from 350 to 700 vissums, or from 700 to 1,400 acres of land (the vissum being two acres), is annually employed for rearing sugar-cane, more or less, according to the demand, or prospects of a demand, for the sugar. They could, and would with pleasure, if they were certain of a market, grow and manufacture more than ten times the usual quantity; for it is very profitable, and there is abundance of very proper land. All they want is a certain market for their sugar.

Besides the above-mentioned, a third more may be made on the Delta of the Godavery.

From the same spot they do not attempt to rear a second crop oftener than every third or fourth year. The cane impoverishes it so much, that it must rest, or be employed during the two or three intermediate years for the growth of such plants as are found to improve the soil, of which the Indian farmer is a perfect judge. They find the leguminous tribe the best for that purpose.

The method of cultivating the cane and manufacturing the sugar, by the natives hereabout, is, like all their other works, exceedingly simple. The whole apparatus, a few pair of buffaloes or bullocks excepted, does not amount to more than a few (fifteen to twenty) pagodas. As many thousand pounds is generally, I believe, necessary to set out the West-India planter.

The soil that suits the cane best in this climate is a rich vegetable earth, which on exposure to the air readily crumbles down into very fine mould. It is also necessary for it to be of such a level as allows of its being watered from the river by simply damming it up (which almost the whole of the land adjoining to this river admits of), and yet so high as to be easily drained during heavy rains. Such a soil, and in such a situation, having been well meliorated by various crops of leguminous plants or fallowing for two or three years, is slightly manured, or has had for some time cattle pent on it. A favourite manure for the cane with the Hindoo farmer is the rotten straw of green and black pessaloo (phaseolus mungo max.) During the months of April and May, it is repeatedly ploughed with the common Hindoo plough, which soon brings this loose rich soil into very excellent order. About the end of May and beginning of June the rains generally set in, in frequent heavy showers. Now is the time to plant the cane; but should the rains hold back, the prepared field is watered, flooded from the river, and while perfectly wet, like soft mud, whether from rain or the river, the cane is planted.

The method is most simple. Labourers with baskets of the cuttings, of one or two joints each, arrange themselves along one side of the field. They walk side by side, in as straight a line as their eye and judgment enables them, dropping the sets at the distance of about 18 inches asunder in the rows, and about four feet row from row. Other labourers follow, and with the foot press the set about two inches into the soft mud-like soil; which, with a sweep or two with the sole of the foot, they most easily and readily cover. Nothing more is done, if the weather is moderately showery, till the young shoots are some two or three inches high: the earth is then loosened for a few inches round them with a small weeding-iron, something like a carpenter's chisel. Should the season prove dry, the field is occasionally watered from the river, continuing to weed and to keep the ground loose round the stools. In August, two or three months from the time

time of planting, small trenches are cut through the field at short distances, and so contrived as to serve to drain off the water, should the season prove too wet for the canes, which is often the case, and would render their juices weak and unprofitable; the farmer therefore never fails to have his field plentifully and judiciously intersected with drains while the cane is small, and before the usual time for the violent rains. Should the season prove too dry, these trenches serve to conduct the water from the river the more readily through the field, and also to drain off what does not soak into the earth in the course of a few hours: for they say if water is permitted to remain in the field for a greater length of time, the cane would suffer by it, so that they reckon these drains indispensably necessary, and upon their being well contrived depends, in a great measure, their future hopes of profit. Immediately after the field is trenched, the canes are all propped; this is an operation I do not remember to have seen mentioned by any writer on this subject, and is probably peculiar to these parts. It is done as follows:

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The canes are now about three feet high, and generally from three to six from each set that has taken root form what we may call the stool. The lower leaves of each cane are first carefully wrapt up round it, so as to cover it completely in every part; a small strong bamboo (or two), eight or ten feet long, is then stuck into the earth in the middle of each stool, and the canes thereof tied to it; this secures them in an erect position, and gives the air free access round every part. As the canes advance in size, they continue wrapping them round with the lower leaves as they begin to wither, and to tie them to the prop bamboos higher up: during which time, if the weather is wet, they keep the drains open; and if a drought prevails, they water them occasionally from the river, cleaning and loosening the ground every five or six weeks. Tying the leaves so carefully round every part of the canes, they say, prevents them from cracking or splitting by the heat of the sun, helps to render the juice richer, and prevents their branching out round the sides. It is certain you never see a branchy cane here.

In January and February the canes begin to be ready to cut, which is about nine months from the time of planting. This operation is the same as in other sugar countries; of course I need not describe it. Their height when standing in the field will be from eight to ten feet (foliage included), and the naked cane from an inch to an inch and a quarter in diameter.

A mill or two, or even more, according to the extent of the field, is erected, when wanted, in the open air, generally under the shade of large mango trees, of which there are great abundance hereabout. The mill is small, exceedingly simple, and at the same time efficacious. The juice, as fast as expressed, is received in common earthen pots, strained and put into boilers, which are in general of an oval form, composed of ill-made thick plates of country iron rivetted together.

These boilers hold from eighty to one hundred gallons; into each they put twenty-four to thirty gallons of the strained juice. The boiler is placed over a draft furnace, which makes the fire burn with great violence, being supplied with a strong draft of air through a large subterranean passage, which also serves for an ash-hole. At first the fire is moderate, but as the scum is taken off (a point they are not very nice about in these parts, as they look up to quantity more than quality), the fire is by degrees increased, so as to make the liquor boil very smartly. Nothing whatever is added to help the scum to rise or the sugar to grain, except when the planter wants a small quantity for his own or a friend's use. In this case, they add about ten or twelve pints of sweet milk to every twenty-four or thirty gallons, or boiler, of juice, which no doubt improves the quality of the sugar: the scum with this addition comes up more abundantly, and is more carefully removed.

The liquor is never here removed into a second boiler, but is in the same boiled down to a proper consistence, which they guess at by the eye and by the touch. The fire is then withdrawn, and in the same vessel suffered to cool a little. When it becomes pretty thick, they stir it about with stirring-sticks for some time, till it begins to take the form of sugar: it is then taken out and put on mats made of the leaves of the palmira tree (borassus flabelliformis), where

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where the stirring is continued till it is cold. It is then put up in pots, baskets, &c. till a merchant appears to buy it.

The Hindoo name of this sugar is *pansadarry*. Its colour is often fairer than most of the raw sugars made in our West-India islands, but it is of a clammy unctuous nature, absorbing much moisture during wet weather, sometimes sufficient to melt a great deal of it, if not carefully stowed in some very dry place where smoke has access to it.

Many of the planters prefer making that sort of sugar which they call *bellum*, and Europeans *jagary*, because it keeps well during the wet weather, if kept from the wet. It generally bears a lower price: yet they say this disadvantage is often overbalanced by their being able to keep it, with only a trifling wastage, till a market offers, particularly when the planter has not an immediate market for his sugar. Besides, canes of inferior quality answer for jagary when unfit for sugar.

The process observed for making jagary differs from the above described, in having a quantity of quick-lime thrown into the boiler with the cane-juice, about a spoonful and a half to every six or seven gallons of juice, or nine to ten spoonfuls in the boiler. Here they do not remove the scum, but let it mix with the liquor; and when of a proper consistence, about four or five ounces of gingeley oil (oil of the seeds of sesamum orientale) are added to each boiler of liquor, now ready to be removed from the fire, and very well mixed with it. It is then poured into shallow pits dug in the ground: they are generally about three feet long, one and a half broad, and three inches deep, with a mat laid in the bottom, which is slightly strewed with a little quick lime. In a short time the liquor incorporates into a very firm solid mass: these large cakes they wrap up in dry leaves and put by for sale.

Their jagary is of a darker colour than their sugar, and contains more impurities, owing to the careless manner in which they prepare it, by allowing all the scum to re-unite with the liquor.

The half vissum (or one acre) of sugar-cane, in a tolerable season yields about ten candy of the above-mentioned sugar, or rather more if made into jagary. Each candy weighs 500lb., and is worth on the spot from sixteen to twenty-four rupees, according to the demand. In the West-Indies, the acre (so far as my information goes, and it is chiefly from Mr. Beckford's History of Jamaica) yields from fifteen to twenty hundred-weight of their raw sugar, worth on the Island from £15 to £20 currency. Here the produce is more than double; but on account of its inferior quality, and the low price it bears on the spot, the produce of the acre does not yield a great deal more money than in the West-Indies. However, as here labour is incomparably cheaper, the Indian planter must make much larger profits.

The situation of all the sugar lands hereabout is exactly alike, being the middle of an extensive plain adjoining to the fore-mentioned river. The soil in all is also much alike, so that the produce is nearly equal in all, when no unfavourable circumstances happen. This is further proved by the quantity of sugar a certain measure of juice will yield. Here it is almost always, except in very rainy seasons, or in laid-down or wormy canes, about one-sixth part; that is, every six pounds or three quarts of juice yields one pound of sugar. In Jamaica, Mr. Beckford says, that on an average 1,800 gallons of juice may be reckoned to yield an hogshead of sugar, weight sixteen hundred-weight, which is, within a trifle, one of sugar from eight of juice. This proves our juice to be one-fourth part richer than theirs. From the above calculations it is evident, that our lands hereabout are better adapted for this species of culture, than the lands in Jamaica; for here they not only yield a larger crop of canes, but the juice thereof is also richer: and were our planters here to bring the molasses, &c. into account, employed in the West-Indies for the distillation of rum, their profits would be still greater, for at present such refuse they give to their cattle, or let their labourers carry away or use as they think proper; and by being so employed, I have no doubt it is productive of more real good than if converted into ardent spirits. Let it continue to be so employed, is my sincere wish; for the longer they are ignorant how to convert what is at present wholesome into a poison, the better it is for them.

They

They have already too many ways of furnishing themselves with spirits, particularly near the residence of Europeans.*

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Here the canes, while growing, seem also subject to fewer accidents than in the West-Indies. I will mention them briefly.

1st. A very wet season is the worst: it injures the canes greatly, rendering them of a reddish colour, yielding a poor unprofitable juice. Here they reckon the small heavy pale yellow canes the best.

2d. Storms, without they are very violent, do no great harm, because the canes are propped. However, if they are once laid down, which sometimes happens, they become branchy and thin, yielding a poor watery juice.

3d. The worm is another evil, which generally visits them every few years. A beetle deposits its eggs in the young cane: the caterpillars of these remain in the cane, living on its medullary parts till they are ready to be metamorphosed into the chrysalis state. Sometimes this evil is so great, as to injure a sixth, or an eight part of the field; but what is worse, the disease is commonly general when it happens, few fields escaping.

4th. The flowering is the last accident they reckon upon, although it scarce deserves the name; for it rarely happens, and never but to a very small proportion of some very few fields. Those canes that flower have very little juice left, and it is by no means so sweet as that of the rest.

Say the average quantity of land employed for the growth of sugar-canes in these parts, the zemindaries of Peddapore and Pettapore, independent of what is made on or about the islands formed by the mouths of the Godavery, is 550 vissums (equal to 1,100 acres), and to produce at the rate of 10 candy, or about 44 cwt., equal to two hogsheads and a half per acre, the whole produce in hogsheads will annually be 27,500 of 18 cwt. each, which is fully one-fourth part of the sugar produced in the Island of Jamaica: and I know well that the quantity might, with advantage to Government I was going to say, but that must be left to be determined hereafter, I will therefore say with advantage to the zemindar, farmer (planter), and labourer, be increased to any extent. All the security the planter wants is a strict adherence to the agreement he makes with the zemindar for the land, and a certain market for his sugar, at even the lowest price stated. I observe that the farmer would require to have the agreement he makes for the rent of the land strictly adhered to, because the zemindar raises his demand if the crop is good, so that he will often, in a favourable season, make farmers of all denominations pay probably a fourth more than the original agreement. Such injustice they are obliged to put up with, as custom has rendered it common*, and they have no idea of applying for redress; yet it no doubt damps the spirit of industry, and prevents the soil from any further improvement than the bountiful hand of nature has bestowed on it, which in these parts is great indeed.

The planters in these parts very rarely take a second, or what they call carsy crop, from the same field. They say he is either a very poor, or a very lazy farmer, that does, because those canes yield less juice (and of an inferior quality) than plant canes: however, poverty obliges some to do so. This carsy crop is cut and manufactured in November, which is a busy season in the paddy, &c. fields, as this is the time for reaping the coarse or early paddy and nacheny, and for sowing various sorts of small grain, consequently attending to the sugar-works at that time of the year is inconvenient: besides, the rains are frequent during this month, which is another very great drawback attending this crop. The grand sugar crop fortunately happens during that time of the year, February, March, and April, when there is scarce any other sort of work in the field; consequently both humanity and policy plead in favour of an extended scale to this, or such other branches of agriculture, as employ the labourers at a season when there is little or nothing else to do.

I never could learn that any one had ever depended on a third crop from the same field; for they say if the second is so much inferior to the first, a third

* There is not so much injustice in this as appears at first sight; for if an abatement is made when the crop turns out ill, it seems reasonable a consideration should be made when the crop is good.

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must be still worse, Here hands are, or rather were, so numerous, and labour is so cheap, that they find it much more profitable to plant every year. In the Ganjam district, about Aska and Barampore, the natives make most excellent sugar and sugar-candy, but in small quantities. The sugar is in loaves, of a large grain, and often as perfectly white as what is called in England single refined sugar, and the sugar-candy is superior to any thing of the kind I ever saw.

Mr. Alexander Anderson, surgeon on this establishment, when with the Committee of Circuit up there, was so obliging as to send me a very particular account of the method they follow in manufacturing their sugar and sugar-candy, of which the following is a copy.

Extract of a Letter from Alexander Anderson, Esq. Surgeon on this Establishment.

" Method of preparing the sugar in the Ganjam District :—

" After the cane is ready, it is cut in pieces of a foot or eighteen inches long; " and on the same day it is cut, these pieces are put into a wooden mill * which " is turned round by bullocks. On one side of the mill is a small hole, " sufficient to let the juice pass through, which is received in an earthen pot " placed for the purpose. The juice is then strained into other pots contain- " ing about twenty-four puckar seer, or forty-eight quarts, † and to each pot of " juice is added about six dubs weight, or three ounces of quick lime. It is " then boiled for a considerable time, till on taking out a little and rubbing it " between the fingers it has a waxy feel, when it is taken off the fire and put " into smaller pots with mouths six inches in diameter. The mass may now be " kept in this state for six or eight months or more; and it is necessary, at any " rate, to do so for a month or six weeks. When the process is intended to be " continued, a small hole is made in the bottom through which the syrup drains " off. It is then taken out of these pots and put into shallow bamboo baskets. " that any remaining syrup may exude ; after which it is put in a cloth, and " the syrup is squeezed through the cloth, adding a little water to it occasion- " ally, that it may be more perfectly removed. The sugar is then dissolved in " water, and boiled a second time in wide mouth pots containing only three " seers, with not too fierce a fire, adding from time to time a little milk and " water, and stirring it frequently ; which is used by these people to clarify it, " instead of eggs, which their religion forbids them to touch. The scum is re- " moved as it is thrown up ; and when it resumes the waxy feel on rubbing a " little of it between the fingers, the process is finished, and the sugar is put into " small wide-mouth pots to cool and chrystallize ; after which a small hole is " bored for the purpose of draining off any little quantity of syrup that may " still exude. The outside of the pots are now covered with cow-dung ; and " for the purpose of making the sugar white, or removing any syrupy or " blackish appearance, the creeping vine, called in Moors *panicha-dub*, and in " Tellingas *necty-nas*, ‡ growing in tanks and marshy places ; it is put on the " top of the sugar in the pots, and renewed every day for five or six days. " Should the sugar on taking it out of the pots be blackish or less pure towards " the bottom, the bottom of the loaf being set upon this plant and renewed " daily, will effectually remove that appearance. If it is wrapt in a wet cloth " and renewed twice a day, the sugar will also become white ; it must be then " thoroughly dried and kept for use.

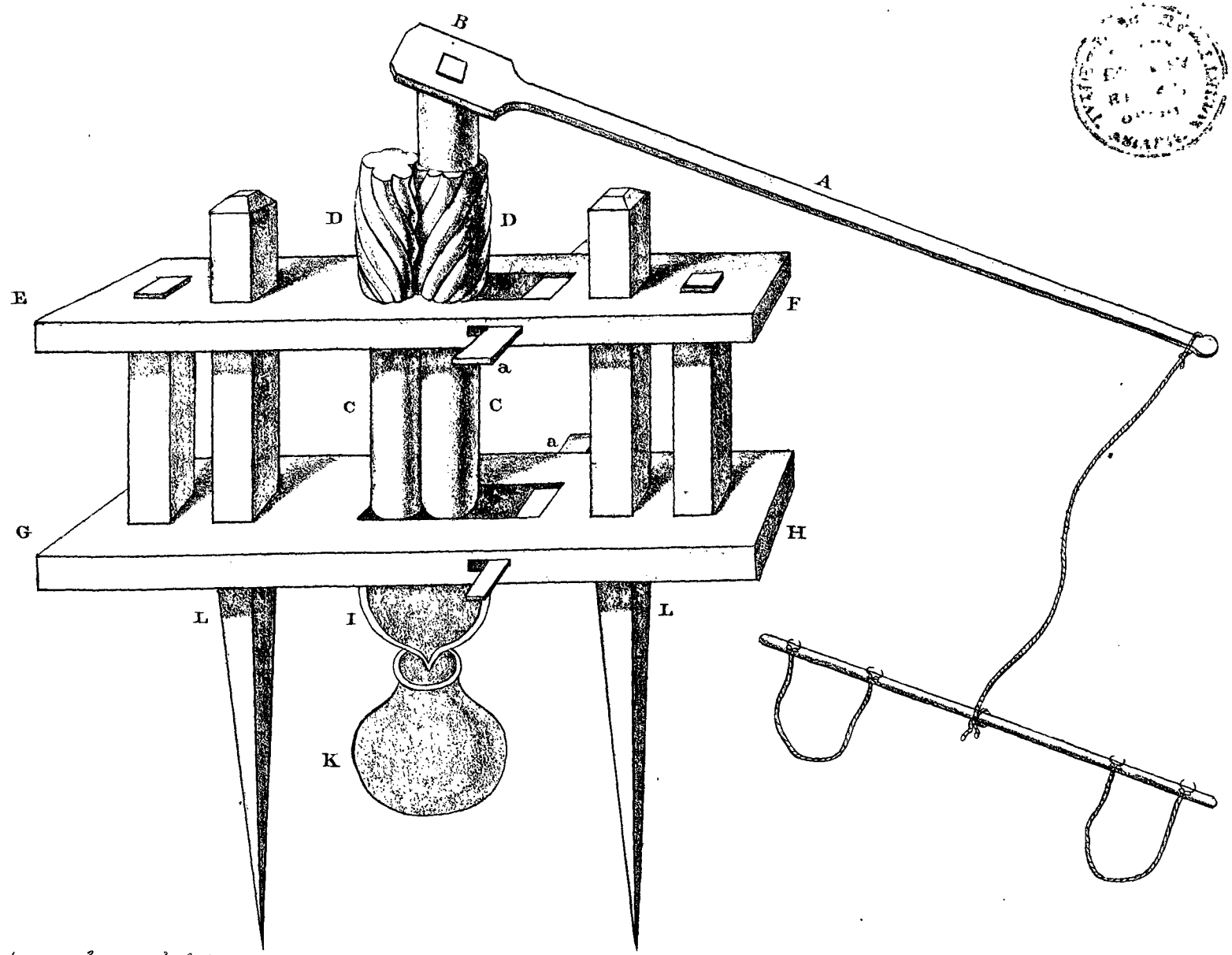
" To make sugar-candy, the sugar must be again dissolved in water, and " boiled in the same manner as before, adding milk to it in small quantities : " the proportion of three seers of sugar and half of milk, with water to dissolve " the

* A very large wooden mortar, the pestle of which rests obliquely towards the side, and is so moved round in a circular manner, by means of a lever fixed at its top projecting eight or ten feet over the side, to the end of which lever two bullocks are yoked. It is the common oil-press of the Hindoos, but is exceeding inconvenient for extracting the juice of the sugar-cane, and shews how far behind hand the natives of that district are in this part of the process, when compared with the small convenient mill employed hereabout. Nothing can shew more clearly how exceeding averse these people are to any change in their old customs.

† A mistake, for a puckar seer is two pound, of course one quart.

‡ Conferva verticillata. It grows in great abundance, particularly in clear standing brackish water near the sea.

THE HINDOO SUGAR MILL.



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" the sugar. It is then put into other wide-mouth pots, with but three seer in " in each pot, putting thin slices of bamboo, or some dried date leaves, which " prevents the sugar as it candies from running into large lumps."

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Here we see a very superior sugar, and sugar-candy of the first quality, manufactured in a simple but tedious manner, and at a most trifling expense. A few earthen pots are the only vessels or boilers they require. But it is not to be imagined that such would succeed, if the work were carried on to any great extent. The iron boilers employed hereabout might be laid aside for those of copper or of cast-iron from Europe, or not, as they like themselves, for it seems of no great consequence; but by having a greater number of them for the liquor to pass through and be well clarified in, would render unnecessary the second process mentioned by Mr. Anderson, which, on account of its tediousness, must become very inconvenient; consequently, all that seems to be wanted to render the sugars made hereabout fit for any market, is a boiler, or two or three more in each set, with wooden coolers, instead of losing time to let it cool in the boiler, as is the practice here at present; the addition of some quick lime, and probably alum, to the cane juice, and the subsequent claying of it in conical pots, as is done in the West-Indies, for which process the natives of the Ganjam district substitute moist conferva for covering the sugar in the pots with, and wrapping the loaves, when not sufficiently white, in wet cloth, to extract the molasses.

The rate of freight from India to England being so very high, renders it the more necessary to make the sugars for that market of a good quality, which can be done here at an infinite less expence than in the West-India islands, where labour is so exceeding high.

If the sugar-cane can be cultivated with so much ease, and to such perfection in this climate, (which is considerably hotter than the West Indies), by simply burying the set about two inches in the level ploughed field, by which practice the superficial or horizontal roots must be near the surface, of course subject to great heats; I say, if this practice succeeds so well here, it may be presumed it would succeed equally well, if not better, in the West-Indies, where the heats are never so great, of course, the superfical roots of the cane less subject to be scorched. The present practice of digging large square holes to put the sets in, is, I am told, exceedingly laborious, and does not stand the planter in less than £10 per acre, which is nearly double the whole expense of cultivating, from first to last, an acre of canes, and manufacturing the sugar, in this district. Should the British Legislature deem it proper to emancipate the slaves on those islands, the planter there may be obliged to cultivate and plant his lands in the manner practised here, or as potatoes are planted with the plough in the fields in England; and there is scarce a doubt but that they would, in either way, succeed fully as well as by planting in holes.

Should political motives prevent the importation of East-India sugars into England, it is even then of infinite import to the Company's territories to have the qualities of their sugars improved, so as to render unnecessary the importation of those of China and Batavia, large sums being annually thrown into those places for this commodity, while we at the same time possess every advantage for making this necessary article of the best quality, to the full in as high a degree as either the Chinese or Dutch. Besides our own wants, we have every reason to imagine that we might soon be able to supply the Malabar coast, Persia, and Arabia with sugars, whereas at present they are chiefly supplied from China and Batavia.

The Hindoo sugar-mill of the Rajahmundry Circar is worked by a single pair of buffaloes or oxen, (vide Plate) going round with the lever A, which is fixed on the top B. of the right-hand roller. The two rollers CC. have endless-screw heads, which are formed of four spiral grooves and four spiral ridges DD cut in opposite directions, which turn them into one another, when the mill is working. These rollers and their heads are of one piece, and made of the toughest and hardest wood that can be got, and which will not impart any bad taste to the juice. They generally employ either the coloured part of the wood of mimosa odoratissima (dirchena carra of the Hindoos); it is of a chocolate colour, remarkably hard, tough, and durable; or that of mimosa nilotica (toomy carra of the natives), it is also of a brownish colour, very tough and

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and very durable, though less hard than the former. They are supported in the thick strong wooden frame EFGH, and their distance from each other is regulated by means of the wedges aa., which pass through mortises in the frame planks and a groove made in a bit of some sort of hard wood bb., which press upon the axis of one of the rollers: the axis of the other presses against the left-hand side of the hole in the frame boards. The cane-juice runs down the rollers and through the hole in the lower frame board, into the wooden conductor, I, which carries it into an earthen pot, K. The two long pointed stakes or piles, LL, are driven into the earth, which keeps the mill steady, and is all the fixing it requires. The under part of the lowermost plank of the frame, rests upon the surface of the ground, which is chosen level and very firm, that the piles may hold the faster. A hole is dug in the earth, immediately below the spout of the conductor, to receive the pot, K.

Samulcotah,
20th June 1792.

EXTRACT *from* Dr. Buchanan's *Journey from* Madras *through* Mysore, Canara, *and* Malabar, *in* 1800.

Buchanan's Journey through Mysore, &c.

In *Mysore* a considerable quantity of sugar-cane is cultivated by the farmers of the Ashta-gram. It is of two kinds, restali and puttaputti. Both yield bella or jagory; but the natives can extract sugar from the puttaputti alone. The jagory of the latter is also reckoned the best. The restali can only be planted in Chaitra; the puttaputti may also be planted in Srávana or Mágha. The crop of restali is over in a year; that of puttaputti requires fourteen months, but may be followed by a second crop, or, as is said in the West Indies, by a crop of ratoons, which require only twelve months to ripen. The restali will not survive for a second crop. This is the original sugar-cane of the country: the puttaputti was introduced from Arcot by Mustaph' Aly Khan, who in the reign of Hyder was Tosha-khany, or paymaster-general. The cultivation of restali has ever since been gradually declining.

When the ground is to be cultivated for sugar-cane, it is watered three days, and then for the same length of time it is allowed to dry. During the next eight days it must be ploughed five times, and the clods must be beaten small with a kind of pick-axe called col kudali. The field must then be manured and ploughed a sixth time. The ground now rests fifteen days; after which, in the course of one or two days, it must be ploughed twice, and then be allowed eight days more rest. It is afterwards ploughed a ninth time. These operations occupy forty-four days; six more are employed in planting in cane, which is done by an instrument called yella kudali. With this the field is divided into beds of about six cubits wide. These beds are separated by small trenches, which are about fourteen inches wide and eight deep. In every alternate trench are dug small wells, about two feet deep. The water from the canal flows through all the trenches, and a quantity of it lodging in these wells, is taken out with pots for watering the plants by the hand. Across every bed, at the distance of a cubit, are dug five holes, about six inches in diameter and three in depth. In each of these are placed horizontally two cuttings of the cane, each containing three joints. These are covered slightly with earth, over which is laid some dung. When the cane is planted in Chaitra, the trenches must be filled with water from the tank, and every hole must be watered by pots. At the other seasons the trenches are full, it being the rainy weather; but even then, for one month the holes containing the cane must daily be watered by the hand. The earth in the holes is then stirred up with a stick, and a little dung is added. Next month the daily watering must be continued, and at the end of it the whole field must be dug up with the yella kudale; and round every cluster of young canes there must be formed by the hand a small cavity, into which a little dung is to be put. In the third month the canes must be watered every other day. At the end of the third month, if the canes have grown with luxuriance, the field must be dug over again with the yella kudali; but if they are rather stunted, the watering must be continued all the fourth month, before they get the third weeding. At this time, the earth

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at the roots of the cane is heaped up into ridges crossing the beds at right angles to the trenches. Afterwards no water is given to the plants, but for three days the trenches must be kept full. It is then let out for a week. If there be rain there is no occasion for more watering; but if it be dry weather, the trenches, for a month, must be filled with water one day in the week. Then the weeding with the yella kudali must be repeated, and the earth must be smoothed with the hand, and placed carefully round the canes. The young shoots from each hole will be now ten or twelve in number: those which are sickly must be cut off; and the healthy, which are about a cubit long, must be tied up with a leaf of the plant into bundles of two or three, in order to prevent them from spreading too much. Should there be no rain, the trenches must once in fifteen days be filled with water, till the canes, having grown higher, again require to be tied together. In a month after the first tying they ought to be two cubits high. When the plants are eight months old, they will have grown another cubit, and will require another tying. The farmer now begins to repair his apparatus for making jagory; the alay munny, or boiling-house; the gana, or mill; the copriga, or boiler; the utsu, or mould; the cunu, or cooler; the goarmuny, or ladle; and the chebalu, or skimmer. In the eleventh month he begins to cut the restali, and the crop must be finished within the year. The puttaputti is ripe in twelve months, and two months may be allowed for cutting it. If it be intended to keep the field of puttaputti for a second year's crop, the dry leaves which are cut off at crop season must be burned on the spot, and the whole field must be dug with the yella kudali. The trenches must then be filled with water, and for six months the watering must be continued once in eight or ten days unless there be rain. The weedings, during this time, ought to be three; at each of which dung ought to be given. At the end of six months, the canes having grown one cubit high, the weakly plants must be removed and the strongest tied up, as in the first crop. The manner of conducting the two crops after this is quite similar. The canes of the second crop must be all cut within the year. Mucuta, or black clay, is the best soil for both kinds of sugar-canes, but it is reserved for the puttapatti: the cabbay, or red earth, answers for the restali, which does not require such a strong soil. The two inferior soils do not by any means answer for this production. The crop of rice immediately succeeding sugar-cane is very bad; the second returns to its usual quantity; but the sugar-cane is never again repeated on the same ground till three crops of rice have intervened. The roots and tops of the cane are burned for boiling the jagory. The ashes are reckoned injurious to any soil on which they may be laid; but this is certainly a prejudice. Sugar-cane is never cultivated without manuring.

In Madura, the cultivation of sugar-cane being somewhat different from that used at Seringapatam, I shall enter into the particulars. The only cane cultivated here is the restali. The preparation of the ground occupies about three months previous to the end of Phalguna, which happened this year on the 14th March. The steps taken in this preparation are as follow. Water the field; allow it three days to dry; then plough it six times, and break the clods with the col kudali; manure with leaves, and plough again; manure with dung and plough three times. The field having been thus prepared, is divided into beds, as at Seringapatam. Four holes, about a cubit's distance from each other, are formed in the breadth of each bed. Two cuttings, of three joints each, are put in each hole, and covered first with an inch of earth, and then with five inches of dung. Water is given to each hole, and every morning for fifteen days this is repeated. The holes are then dug up with a sharp stick, and more dung is given. For fifteen days more the watering must be again repeated. The whole field must then be hoed with the yella kudali, and in each bed a winding channel must be formed. When there is no rain, these channels must once a week be filled with water. At the end of a month the ground must be again hoed, and the channels formed afresh; between the 24th May and the 22d of June the canes become a cubit high; the plants of each hole must then be tied together with a binding of leaves. A third hoeing is now given, and the earth heaped up round the roots of the cane. The waterings once a-week must be continued. When the plants have grown another cubit, which will be about the beginning of September, they must be tied a second time; and again a third time about the beginning of November, the watering once a-week

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having been regularly continued. About the end of December the works are repaired; in the tenth month from planting the crop commences, and must be finished in the eleventh. The cane is succeeded by sesamum, that by rice, and that again by sugar. The sesamum and rice occupy one year, and the sugar-cane another, alternately. The best fields for this cultivation are composed of a sandy red soil: the low black clays are reserved entirely for rice.

At Chinapatam a family of Linga Banijigaru have the art of making very fine white sugar. The process has always been kept a profound secret by the head of the house, who instructs his successor a short time only before his death. The sugar is made for the sole use of the court, who allow the maker twenty-seven fanams a maund, or £4. 8*s.* 7*d.* a hundred-weight, and furnish him with the juice of the cane, which he boils down at the furnace of the cultivators to three-sevenths of the original bulk, and then carries it home to complete the operation. This family is also allowed a village rent-free, as being sugar-makers to the court. Such a miserable monopoly of good things is a favourite practice in the arbitrary governments of Hindostan. Instead of wishing to procure articles of the best quality by giving a high price for what they want, the princes of India are contented with preventing their subjects, by a monopoly, from getting such good things as they can; not reflecting that a prince, by his superior wealth, can always in the fair market procure better things than his subjects. I examined the head of this family of sugar-boilers; but what he said concerning the manner of conducting the operation was evidently false: and I did not think it fair to press him too closely, as a discovery of the art might injure his property. Both puttaputti and restali canes are cultivated, and of both the white sugar can be made; but cane that is raised on a rich soil will not answer for this purpose, as its juice can never be made to granulate.

Taking with me some sensible cultivators and a parputty, I shewed them a small plot of cane, and asked how much jagory it would produce, they said, 400 balls, at 1¾ seer each. By measuring the field, and reducing the measures and weights to the English standard, I found this to give 13¼ hundred-weight an acre. In the black soil called eray, the crop season commences at Sivaratri feast, or on the 12th February: in the sandy soil called marulu it begins a few days earlier. By this time all the implements are brought to the works, and the iron boiler is hired from the Government at the rate of one fanam (about 8*d.*) and one ball of jagory a day.

The boiling-house is a thatched hut, about forty feet long and twenty broad, with a door in front, but without windows. The walls are mud, and stand all the year; but a new roof of very slight materials is put on annually, when the crop is ripe. At one end is a square pit for holding the cuttings of the sugar-cane, and at the other is the boiler. The furnace is partly raised and partly sunk; it is in the form of a truncated cone, and the fuel is supplied from without by an opening in the wall. The small hole for letting out the smoke is most injudiciously placed before the boiler, and has no chimney. The iron boiler is flat, and completely shuts the mouth of the furnace. Before the boiler is a cavity for containing the large cooling jar. At one of its sides is a seat of mud for the workmen who superintend the boiling; and at one end of this is kept a small ark dedicated to the gods. Here is daily put a proportion of jagory, and a bit of money, which are given to any Brahman that may come to bless the operation by his presence; but if none come, the money is sent to the Brahmans of the town, and the workmen eat the jagary, after having presented it to the gods and uttered their names. The sugar-mill consists of a mortar, beam, lever, pestle, and regulator. The mortar is a tree about ten feet in length and fourteen inches in diameter. It is sunk perpendicularly into the earth, leaving one end two feet above the surface. The hollow is conical, truncated downwards, and then becomes cylindrical, with a hemispherical projection in its bottom, to allow the juice to run freely to the small opening that conveys it to a spout, from which it falls into an earthern pot. Round the upper mouth of the cone is a circular cavity, which collects any of the juice that may run over from the upper ends of the pieces of cane, and thence a canal conveys this juice down the outside of the mortar to the spout. The beam is about sixteen feet in length and six inches in thickness, and is cut out from a large tree that is divided by a fork into two arms. In the fork an excavation

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excavation is made for the mortar, round which the beam turns horizontally. The surface of this excavation is secured by a semicircle of strong wood. The end towards the fork is quite open, for changing the beam without trouble. On the undivided end of the beam sits the bullock-driver, whose cattle are yoked by a rope which comes from the end of the beam, and they are prevented from dragging out of the circle by another rope, which passes from the yoke to the forked end of the beam. On the arms a basket is placed to hold the cuttings of cane; and between this and the mortar sits the man who feeds the mill. Just as the pestle comes round, he places the pieces of cane sloping down the cavity of the mortar; and after the pestle has passed, he removes those that have been squeezed.

The lever is a piece of timber nearly of the same length with the beam. Its thicker and lower end is connected with the undivided end of the beam by the regulator. Some way above its junction with the regulator a piece of sujalu, which is a very hard wood, is dovetailed into the lower side of the lever; and in this piece is made a smooth conical hollow, which rests on the head of the pestle. The upper end of the lever is fastened to the two arms of the beam by two ropes. The pestle is a strong cylindrical piece of timber, about four feet in length. At each end it is cut to a point, so as at the upper end to form a cone, and at the lower a pyramid of from twelve to fifteen sides, surmounted by a short cylinder. The cavity in the lever being towards one end, makes the position of the pestle always oblique; so that as it passes round it rubs strongly against the sides of the mortar. Its cylindrical point rubs on the top of the hemispherical projection that is in the bottom of the cylindrical cavity of the mortar. The regulator is a strong square piece of timber, which passes through the undivided end of the beam, and is secured below by part of its circumference being left for checks. It is perforated by eight holes, in the lowest of which is placed a pin to prevent the regulator from falling when the strain is removed. A pin in one of the upper holes of the regulator, and another in one of the holes of the thick end of the lever, serve to secure in their place the ropes that bind closely together these two parts of the machine. According as these pins are placed higher or lower, the relative direction of all the moveable parts of the machine is altered, and the balance of the beam is so regulated that it goes round without any friction, but yet with its fork closely applied to the mortar. The only frictions in this machine, it must be observed, are the two extremities of the pestle; and that which is at the lower end is entirely employed in bruising the cane, which is the object in view: still however, it is a machine badly contrived to the purpose to which it is applied. When the works and machinery have been prepared for making jagory, all the proprietors of sugar-cane in the village assemble, and work together a day at each man's field, in rotation, until the whole is finished. A sufficient number of people bring the canes to a man, who cuts them into pieces about six inches long, and puts them in the square cavity in the boiling-house. From thence one man supplies the basket of the person who feeds the mill, and who is the third man employed at the works. The fourth man drives the bullocks; a fifth carries the juice to the boiler; a sixth attends the fire; and a seventh manages the boiler. The mill goes night and day, and gives fifty-six pots of juice, containing in all about 218 ale gallons. The bullocks are changed after having expressed three pots, and do no more work that day, having been obliged to go very fast. Two of them are in the yoke at a time. The cane raised on black mould gives about a fifth part more juice than that produced on sandy soil; but then nine pots of the latter give a hundred balls of jagory, while it requires twelve or even fourteen pots of the former to produce the same quantity. The workmen always put into the boiler as much juice as will yield a hundred balls of jagory. It is strained into the boiler through a cotton cloth, and there is added to it a proper quantity of lime-water. In a boiler full of rich juice, from cane raised on sandy soil, there is put half a seer of lime-water, or about thirty-four cubical inches, and poorer juice from the same kind of soil requires double that quantity. The boiler full of juice from black mould requires five or six seers, which is added by degrees. The boiler performs its operations three times in the twenty-four hours. When the juice has been evaporated to a proper consistence it is put into a large pot, and allowed to cool for three hours; it is then poured into the mould, which consists of a long thick plank, in which a hundred holes are formed, each in

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the shape of a quadrilateral inverted pyramid. The jagory or inspissated juice is allowed to dry in the mould for four hours; when the plank being turned over, the balls or rather pyramids of jagory fall down. They are dried by placing them on leaves for a day, and are then fit for sale. These balls weigh $1\frac{3}{4}$ seer, or 10,617 lb.; and, if made from cane raised on black mould, sell for about seven balls for the Sultany fanam, or 8*s*. $0\frac{1}{2}$*d*. the hundred-weight. If made from cane raised on sandy soil, six balls cost a fanam, which is at the rate of 11*s*. $9\frac{3}{4}$*d*. a hundred-weight. The jagory, it would thus appear, contains both the sugar and molasses, and is similar to what in Jamaica comes out of the cooler before it is taken to the curing-house. It is, however, somewhat more inspissated: for which an allowance must be made, if we wish to compare the strength of the sugar-cane juice in the two countries. By the foregoing account it requires about thirty-seven gallons of the best juice to make a hundred-weight of jagary. By the account of a man who came into my tents from another village, twelve pots of juice from a black mould give 165 seers of jagory; which agrees very well with what was told me in the presence of the parputty. The Government and the farmers share the produce of the jagary equally. An acre produces thirteen and four-tenths hundred-weight, at a medium of 10*s*.; the average rent of sugar land is therefore £3. 6*s*. 6*d*. an acre. The farmers allege that the Amildars, in order to favour the Court sugar-maker, who generally supplies them also, take all the juice that is produced on sandy soil, and estimating the quantity of jagary which would fall to the farmer's share, repay him with jagary made of cane raised on black mould; but this seems too paltry a kind of imposition to be practised, and shows that they have little real cause of complaint when they mention one so trivial.

Near Bangalore I observed the cultivation of a kind of sugar-cane called maracabo or stick-cane. This kind never grows thicker than the finger, and is very hard and unproductive of juice, but it requires less water than the restali. It seems to have been the original sugar-cane of the Colar district, of which all the country on this side of the central chain of hills forms a part. The farmers have lately introduced the puttaputti from the lower Carnatic, and are extending its cultivation as fast as they can procure cuttings.

The kinds of sugar-cane cultivated in the country round Colar are four, which are esteemed in the following order: 1st restali, 2d. puttaputti, 3d maracabo, 4th cuttaycabo. The two last are very small, seldom exceed the thickness of the little finger, yet the cuttaycabo is the one most commonly cultivated. This is owing to its requiring little water; for by means of the machine called yatam, it may have a sufficient supply to bring it to maturity. From the end of Phálguna to the end of Chaitra (14th March to 23d April) plough eight or ten times; manure the field with dung, and plough it again; then spread leaves on it, and cover them with the plough. By the small channels that are to convey the water the field is then divided into beds, eight cubits broad. Furrows are then drawn across the beds, at the distance of nine inches from each other. The cuttings of cane, each containing four or five eyes, are then placed lengthwise in the furrows, the end of the one touching that of the other. They are covered with a very little earth, over which is laid some dung; they are then watered, the water flowing through every channel and entering every furrow. For one month the watering is repeated once in three days; the earth round the canes must then be loosened with the point of a sharp stick. For fifteen days more the watering must be continued, when the whole field should be hoed, and levelled with the col kudali.

Four days afterwards between every second row of sugar-canes a trench is dug, and into this the water flows from the channels. Thus in the progress of its cultivation each bed assumes two forms. When there is no rain, the field requires to be watered once in the fifteen days. When four or five months old, the canes are tied up in bundles; and when they are a cubit and a half high, this is repeated. In eleven months they are ripe, and a month and a half are allowed for the crop season. The soil here used for sugar-cane is the rich black soil called eray; and after sugar it requires one or two years' rest before it gives a good crop of rice. The sugar-cane is all made into jagory; seventy-four seers measure, or nearly eighteen ale gallons, of juice are said to produce fifty Cucha seers weight (about $26\frac{1}{2}$lb. avoirdupois) of the jagory.

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The sugar-candy made in the country round Chica Balapura is equal to the Chinese, and the clayed sugar is very white and fine. The art was introduced by the Sultan at Seringapatam, but was kept secret. Two Brahmans, however, of this place, obtained a knowledge of the art, but they also are determined to keep it a secret. The price at which they sell it totally precludes it from an extensive sale, as the Chinese sugar-candy is now sold at Seringapatam cheaper than the fine sugar-candy of this place is sold on the spot. In Tippoo's reign, the prohibition of commerce with the lower Carnatic made the manufacture of importance. The actual price of the fine sugar-candy made here is ten Company's rupees a maund of 24lbs., or £5. 1*s*. 1*d*. a hundred-weight; and of the fine soft sugar, twenty Sultany fanams a maund, or £3. 2*s*. 7¾*d*. a hundred-weight. The common brown sugar-candy, the original manufacture of the country, sells for five rupees the maund, or £2. 10*s*. 6½*d*. the hundred-weight; and the common brown soft sugar at three rupees, or £1. 10*s*. 4*d*.; the value of the rupee being taken at the exchange of Seringapatam. From the farmers the sugar-makers purchase the juice of the cane after it has been boiled down to a certain degree, and pay two rupees for the produce of 1,000 canes, which will make two maunds, or eighty seers of jagory. This gives

Of refined white sugar-candy, 16 seers	8*s*.	8*d*.
Of refined white soft sugar, ...35 seers	12	5
Of brown sugar-candy, ...22 seers	5	11½
Of brown soft sugar, ...40 seers	6	6
The cost of the materials is nearly	4	4

Either the expenses or the profits of this manufacture, therefore, arei mmense. The fine white soft sugar is made up into a kind of paste, which is put into moulds of a variety of forms, and thus hardens into solid masses, that are presented to guests at marriages or on other great occasions; which seems to be the reason of the enormous price of this manufacture. The art of making this paste is also a secret. Having taken some of the cultivators to the cane-fields, they shewed me a plot which they said would produce a hundred maunds of jagory; and they observed, that every hole in which two cuttings are planted should produce from six to ten ripe canes. By measuring this field and allowing for the distance occupied by each hole, I found that it would plant 8,000 double cuttings; but as some holes fail entirely, I shall only take the average number of canes from each hole as between six and seven, and then the produce of the field will agree perfectly with the two maunds of jagory, stated by the sugar-boilers to be what could be obtained from 1,000 canes. I look upon this, therefore, as good data for a calculation; and extending the measurement, I find that the acre should produce about 140 maunds of jagory, or thirty hundred-weight of this rude material; which is capable of being made into fifteen hundred-weight of raw sugar, worth £22. 15*s*. Of this, however, one-third must be deducted for the expense of manufacture, leaving £15. 3*s*. 4*d*. an acre to be divided between the Government and cultivator. Of this the Government nominally gets one-half; but the deductions made on a division are very great. Some sugar-lands here are watered by the machine called yatam, an expense which it can well bear: in this case, the farmer, for his additional trouble, gets one-quarter of the Government's share. The sugar-mills which the people here, as well as every where in Sira Subadary, use, are two cylinders wrought by a perpetual screw, and two bullocks; but seven times in the twenty-four hours the bullocks are changed. The mill goes night and day; and by the labour of fourteen bullocks expresses 7,000 canes, which produces fourteen maunds of jagory, or 7 maunds of raw sugar, equal to 1½ hundred-weight. To any one of our West-India planters, the wretched state of mechanics among the Hindoos will from this be very evident; yet, miserable as this machine seems to be, it appears to me better adapted for the purpose to which it is applied than the mill in use at Chenapatam. So far as a very slight knowledge of Jamaica will enable me to judge, the sugar-planters of the West-Indies have a decided advantage over those of Hindostan, in climate, soil, carriage, and skill both in agriculture and mechanics; but the enormous price of labour must always be a heavy drawback on them, while they continue the present system of keeping up the population by slaves imported from Africa.

At Doda Balapura the Amildar is endeavouring to introduce the manufacture of sugar. He has made advances to the Brahmans who understand the art;

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and, to begin the experiment, has planted 50,000 holes. He thinks to be able to undersell the sugar-candy of China at Seringapatam. He says, that the manner of refining the raw sugar is by boiling it with milk; which, by its coagulation, would no doubt answer the purpose, but the process must be expensive.

In the villages called Trimula Nayaka, near Madhugur, those who raise sugar divide their field into two equal portions, which are cultivated alternately, one year with sugar-cane, and the other with grain; the cane, however, thrives better, when the field, in place of being cultivated for grain, is allowed an intermediate fallow; but then the loss is heavy, as after cane the grain thrives remarkably. The grains cultivated are rice, ragy, and jola; the first injures the cane least, and the jola injures it most. The kinds of cane cultivated are the restalli and maracabo. In Kartika and Margasirsha (19th October to 16th December) plough seven times, and manure with sheep's dung and leaves; then with the hoe called yella kudali form channels at a cubit's distance. In these also, at a cubit's distance, plant singly shoots of the cane, each about a cubit in length. If the soil be poor they must be planted rather nearer. They are laid down in the channels, which are filled with water, and then people tread the shoots into the mud, by walking through each channel. A colaga of land requires 18,000 shoots, on which data it ought to contain $1\frac{8}{10}$ acre, in place of $1\frac{5}{10}$ that were given me by the measurement of two fields. In all my calculations, however, I have considered it as of the latter extent. If the soil be of a moist nature, the cane has water once in eight days; but if it dry quickly, it must until ripe be watered once in six days, except when there is rain. At the end of the first month the field must be hoed with the cali kudali, which is the very same instrument that in the cultivation of ragy is called molu-potu. The misapplication of these names is thought to be unlucky. Near each cane, as a manure, some leaves of the Robinia mitis are then placed, and they are covered with a little mud; so that the channels are now between the rows of cane, and the canes grow on the ridges. When these are $2\frac{1}{2}$ cubits high, they are tied up in bunches of three or four; and as they grow higher, this is three or four times repeated. Twelve months after planting the crop season begins, and in six weeks it must be finished. 250 maunds of jagory is here reckoned a good crop from a colaga of land, which is very nearly 15 hundred-weight an acre; 150 maunds, which is about nine hundred-weight, from the acre, is reckoned a bad crop. Black clay gives the greatest quantity of jagory, but it is of a bad quality. A sandy soil produces least jagory, but that of a high value. One machine, called capily, can water an acre and a half of sugar-cane land.

The ground for cultivating sugar-cane near Sira is divided into two equal parts, which are alternately cultivated, one year with cane and the other with rice. It is watered either from the reservoirs, or by the machine called capily. In the last case, a field of two collagas, or three acres, one-half of which is in sugar-cane, and the other in rice, requires the constant labour of four men and eight oxen. Day labourers must also be hired to rebuild the boiling-house, to tie up the cane, and to weed. When the field is watered from a reservoir, one man only is regularly employed; but to plough, to plant, to weed, and to tie up the cane, both men and cattle must be hired in addition. Three kinds of cane are cultivated here: the most valued is the restalli, which grows best on a black soil, in which there is much sand or gravel; a good crop of this on a colaga of land produces 100 maunds of jagory, which is about twenty-nine and a half hundred-weight on an acre. The next in quality is the caricabo or black cane: it requires a pure black mould, called eray bumi, andin a good crop produces from a colaga of land sixty maunds of jagory, or from an acre nearly seventeen and a half hundred-weight. The poorest cane is the maracabo or stick-cane: it is cultivated on the same kind of soil with the restalli, but produces only half as much jagory as the caricabo, and that of a very bad quality, for it is quite black. The cultivation of the restalli, however, is comparatively much more troublesome. In the course of the eight months following the summer solstice, the field must be ploughed eleven times; and once a month, during the whole of that time, 1,000 sheep must be folded for one night on the field. It is then manured with mud from the bottoms of the reservoirs, and ploughed again twice. The channels are then formed, and in them the cuttings are laid down, two and two, being always placed parallel; a colaga of land requires 50,000. The channels are then filled with

with water, and the cuttings are trodden into the mud with the feet. The second watering is on the fourth day, the third watering on the twelfth; afterwards the field, if the soil be good, must be watered once a fortnight, or once a week if it part with its moisture quickly. On the twentieth day the field is weeded with the small hoe, called molu potu, which implies that the operation is done very superficially. On the thirty-fifth day the whole field is dug with the large hoe, called yella kudali; and the earth being thrown up toward the canes in ridges, the channels for conveying the water run between the rows. About the ninetieth day the canes are tied up with a leaf of the plant, in parcels of five or six, and once a month this is repeated. When the cane is ten months old, the crop begins, and in thirty days it must be finished. The farmers here say, that a fallow between the two crops of sugar-cane would not answer, and that the crop of rice gives strength to the ground. Buchanan's Journey through Mysore, &c.

Although the produce is great, the farmers of Priyapattana never raise sugar cane unless they receive advances. Jagory sells here at 1 rupee, or $3\frac{1}{4}$ fanams a maund, or at about 9*s.* $4\frac{1}{2}$*d.* a hundred-weight. The cane is watered from reservoirs; the natural moisture of the climate not being sufficient to raise it, and machinery being never employed. The kinds cultivated are restalli and maracabo, both of which grow nearly to the same length, which is in general about six feet. The restalli ripens in twelve months, while eighteen are required to bring forward the maracabo; so that as a crop of rice must always intervene between two crops of sugar-cane, the rotation of the former occupies two years, while in that of the maracabo three are consumed. A little putta-putti has been lately introduced.

For the maracabo, plough twenty times, either in Aswaja and Kartika, the two months immediately following the autumnal equinox; or in Kartika and Margasirsha, which is of course one month later. The canes are planted in the second or third months after the winter solstice. In order to plant the cane, longitudinal and transverse furrows are drawn throughout the field, distant from each other one cubit and a half: at every intersection a hole is made, nine inches wide, and of the same depth; in each hole are laid horizontally two cuttings of cane, each containing three joints; finally, under them is put a little dung, and above them an inch of mould: then water each hole with a pot, from a channel running at the upper end of the field. On the two following days this must be repeated. Until the end of the third month, water every other day. From the third to the sixth month, the field must, once in eight days, be ploughed between the rows of holes; and at the same time, should there be any want of the usual rain, it must be watered. At the first ploughing a little dung must be given, and at the end of six months the field must be copiously manured. At this time channels are formed winding through among the canes; so that every row is between two channels. When the rainy season is over, these channels must be filled with water, once in eight days in hot weather, and once a month when it is cool. At the beginning of the eighth month, the whole field is hoed, and at the end of two months more, this is repeated. The cane here is never tied up. A candaca of land is estimated to contain 7,000 holes; but in this there must be some mistake, for allowing $1\frac{1}{2}$ cubit for each hole, 7,000 would not plant an acre; whereas the candaca of land that I measured contained $3\frac{876}{1000}$ acres. The produce of a candaca of land is stated to be about 14,000 seers, each of 24 rupees weight, which, according to my measurement, would be about $19\frac{1}{2}$ hundred weight of jagory per acre: but if 7,000 holes, at the distance from each other of $1\frac{1}{2}$ cubit, produced this quantity, it would be at the rate of above 93 hundred-weight for the acre, which is much more than can be allowed.

The sugar-mill used here is the same with that which the farmers of Chenapatam employ. In the course of twenty-four hours it gives as much juice as produces three boilings, each of about a hundred-weight of jagory. A farmer, if he has four ploughs and four constant labourers, can cultivate a candaca of land alternately with sugar-cane and with rice; but at weedings, and such other occasions, he must hire additional workmen. He will, however, cultivate thirty-five seers sowing of ragy.

In the district of Caruru a great deal of sugar-cane is raised. It is cultivated nearly in the same manner as at Balapura and ripens in ten months.

Buchanan's Journey through Mysore, &c.

months. A crop of ratoons is sometimes taken, but it is very poor. Between every two crops of sugar-cane it is customary to take two or three crops of rice. Two thousand holes are formed in every canay of ground, which is equal to 100 culies of 32 adies square: three cuttings are put in each hole. In a good crop a canay of land produces of jagory 120 tolams of 27½ seers of 28 rupees. This is at the rate of only 8¼ cwt. from an acre. When cheap, the jagory sells at half a rupee a tolam, or 6*s.* 4½*d.* a hundred-weight.

The whole value of the produce of an acre at this rate is £2. 16*s.*; but the jagory often sells at double the price here stated. A Mr. Campbell has lately undertaken to make the jagory into sugar, and has received from the Company considerable encouragement.

He advances 20 rupees for every canay of land which the farmers plant, and is to receive one-half of the jagory. Out of this half he is to pay the rent to the Government. The twenty rupees are to be repaid him out of the farmer's half; the farmer's share is therefore one-half of the produce, and he receives money in advance to enable him to cultivate the land.

The only article of any consequence that is cultivated in the paddum land, in South Malabar, is rice. A little sugar-cane has been lately introduced; but it is planted only in small spots by the side of the tanks, or on the banks of rivulets. These places are not included in the lands assessed by Government, but they pay rent to the landlord.

In the lower parum or rising ground in the district of Randaterra, in North Malabar, usually employed for rearing coco and betel-nut palms, the sugar-cane seems to thrive, and does not require watering. The experiment has not yet been carried to a sufficient length to enable Mr. Brown, the superintendant of an experimental plantation, to speak decidedly on the subject; but if this valuable plant be found to answer in such situations, its introduction will be of immense benefit to the province.

The hill land in Cherical not occupied by gardens of jack-trees, coco-nuts, betel-nut, brah-palms, and pepper vines, is commonly once in ten or twelve years cultivated after the ponna fashion. The principal grain sown is the hill rice, on which the inhabitants of the interior chiefly depend for subsistence. There are also sown some shamay (panicum miliare), ella (sesamum), and pyru (legumes); and with every crop raised on this kind of ground some cotton seeds are mixed. Mr. Hodgson, the collector, thinks that if attention were paid to the cultivation of this last article and of sugar-cane, much advantage would accrue to the country.

In Tulava, in South Canara, the third sort of rice land called betta is the same with the lower parum, or hill land of Matayala, which is there chiefly used for gardens. The rice cultivated on this is always soon sprouted, exactly in the same manner as the yenalu or first crop; only it requires two more ploughings, and a greater quantity of manure. The seed ought to be 1¼ of that which is required for the same extent of bylu; but this also, I found, was not confirmed by actual measurement. This rice is kept for home consumption; for that of the yenalu, or first crop from bylu, or the lowest land, is the kind commonly exported.

It is upon this kind of ground that sugar-cane is cultivated; but very small quantities only are raised, and that entirely by the native Christians. Their method is as follows. Between the 14th of December and the 11th of January the ground, for four successive days, has a double ploughing, and after each is smoothed with a plank drawn by oxen. Then with a hoe, called haray, parallel channels are formed, at the distance of every eight or ten cubits. At right angles to these, and contiguous to each other, are formed trenches three quarters of a cubit deep, half a cubit wide at the bottom, and one cubit and a half at the top. The field is then manured with dung and straw; which, after they have been spread on the field, are burned; so that, in fact, the manure is ashes. The canes for seed are then cut into pieces, from half to three-quarters of a cubit long, and these are soaked in water a whole day and a night. On the day after the manure has been burned on the field, the soil in the bottom of the trenches is loosened with the hoe, and mixed with the ashes, and with these united the joints of the cane are slightly covered. They are placed horizontally, two and two, in lines parallel to the trenches: and the ends of one

one pair touch the ends of the two adjacent pairs. The field is then watered, the channels being filled from a tank or well, by means of the machine called yatam. Except when there is rain it must be watered every fourth day, speaking as a medical man; that is to say, if it be watered on the first day of a month, it will be watered again on the fourth, seventh, tenth, and so forth. A compost having been formed of rich mould, dung, and dry grass, it is burned; and on the fifteenth day from planting the ashes are spread over the field. At the end of the month the weeds are removed by the hand, and with a small instrument named sulingy: at the same time, the young canes are again manured with the burnt compost. At the end of the second month, if the cane has a sickly colour, it is again manured. The rains commence about that time, and then the earth from the intermediate ridges is gathered up round the young canes, which thus, in place of being in trenches, stand on the top of ridges. The field must then be well fenced. The dried leaves must be removed by the hand, which is all the farther trouble required, no watering being necessary after the rainy season is over. Jackalls eat the cane, and must be carefully watched. The cane is fit for cutting in eleven or twelve months. There are two kinds, the bily and cari cabbu, or white and black canes. The former is the restalli, and the latter the puttaputty of the country above the ghats. The same ground will not produce sugar-cane every year; between every two crops of cane there must be two crops of rice. A piece of land that sows one moray of rice will produce 4,000 canes, which are about six feet long, and sell to the jagory-boilers at from half to one rupee a hundred. The moray sowing of betta land is here about 30,000 square feet, so that, according to the price of sugar-cane, the acre produces from about 58 to 29 rupees, or from about £5. 17*s.* to £2. 18*s.* 6*d.* The land-tax is the same as when the field is cultivated for rice. The want of firewood is the greatest obstacle to this cultivation; the trash, or expressed stems, is not sufficient to boil the juice into jagory, while that operation is performed in earthen pots placed over an open fire. If all the land in Codeal talue (district) that is fit for the purpose were employed to raise sugar-cane, it would yearly produce 1,000 pagodas worth of cane; that is to say, there are about 1,125 mudis sowing of land, that once in three years might be cultivated. The quantity in the neighbouring district on the south side of the river is much greater. The jagory made here is hard, but black, and of a bad quality. It sells at three maunds for the pagoda, or at 12*s.* 3½*d.* a hundred weight.

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On the majelu land near Carculla a very small quantity of sugar-cane is raised; but the whole of this is of very small extent.

In Haiga, in Northern Canara, sugar-cane is raised on mackey land; but four years must intervene between every two crops; and for the first two years after cane, the rice does not thrive. The kind of cane used here is called bily-cabo, which above the ghats is called mara-cabo. Inland they cultivate the cari-cabo, which above the ghats is called puttaputty. In the month preceding the vernal equinox, the field is dug to the depth of ten inches with the hoe called cutari: it is then ploughed five times, and smoothed with the rake drawn by oxen. Channels for conveying the water are then made parallel to each other, and at the distance of three cubits. They are about nine inches wide, as much deep, and raised a little above the surface, the field being level. The intermediate beds are formed into ridges, perpendicular to the channels, and resembling those of a potatoe field when it has been horse-hoed. The field is then covered with bushes, grass, dry cow-dung, and especially with dried parasitical plants, such as epidendra, limodora, &c. and the whole of these are burned to ashes as a manure. On the third day after this, the canes intended for planting are cut into pieces, each containing three joints, and these are soaked in water for two days. Then in each furrow, between two ridges, are placed longitudinally two rows of these cuttings. Each piece leaves an interval of four inches between it and the next piece of the same row. The rows are placed near the bottom of the furrows, and are slightly covered with earth, and the furrows are then filled with water. All this must be performed before the new year commences at the equinox. Next day the furrows are again watered; and this is repeated on the eighth day, and afterwards once every four days. Two months after planting the field is weeded, and the ridges are repaired with a small hoe called halucatay. The field is then manured with ashes and with mud taken out of places where water lies deep. After this, the

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watering is repeated once in four days till the commencement of the rainy season, when the ridges are thrown down, and new ones formed at the roots of each row of canes. In nine months these ripen without further trouble. The water is in general raised by the machine called yatam, from wells, in which it is found at the depth of from three to twelve feet from the surface. Three men are required to water and cultivate one moray of land, of which $1\frac{79}{100}$ are equal to an acre; but at the time they are so employed, the farm requires little other work. The canes are very small, being from 2 to $2\frac{1}{2}$ cubits long, and about the thickness of a man's thumb. The juice is expressed by a mill, which consists of three cylinders moved by a perpetual screw. The force is applied to the centre cylinder by two capstan-bars, wrought by six or eight men; and the whole machine is extremely rude. A moray of land produces ten maunds of jagory, worth in all five pagodas. This is at the rate of $4\frac{33}{100}$ hundred-weight an acre, worth about £3. 10*s*. My informants seem to have greatly underrated the quantity of jagory.

In the very satisfactory answers which Mr. Read, the Collector, has been so good as to send to my queries, he observes as follows: "As the land on which "the sugar-cane is reared is all rice ground, its cultivation might be increased "to a very considerable extent; but not without lessening the quantity of rice, "because, the market for sugar being neither so extensive nor so profitable by "any means as that for rice, few farmers would be at the expense of levelling "and preparing ground for sugar-cane only. They, probably, even now plant "as much of their grounds with the sugar-cane as they think they can readily "sell; but I do not think this cultivation will be ever much increased, because "the late reduction in the export duties on rice, together with the increased "demand for that article, make its cultivation of still more importance to the "farmer than it was heretofore."

The quantity of sugar-cane annually raised in the Canara districts, below the ghats, is estimated at 9,819,250 canes; and Mr. Read does not think that this cultivation ought to be farther encouraged, as it would interfere with that of rice, which is more valuable.

In the eastern parts of Soonda sugar-cane is raised on the rice-ground, but in very small quantities, and the whole is made into jagory. The ground fit for it must have a tank containing water enough to irrigate the field twice after it has been planted, and once before the crop is reaped. The kind used is called the hulocabo, or straw-cane; and it is the same with the maracabo of Bangalore. It is planted in the second month after the winter solstice, and is cut within the year. 1,400 canes give a maund of jagory, and a candaca of land will produce 21,000 canes or fifteen maunds, of 44 seers each, weighing twenty-four elephant dubs. The produce of an acre, by this account, is only about 357lb. of jagory. Some people allow the cane to grow up again from the roots, and thus get what in Jamaica is called a crop of ratoons. This produces only half of the above-mentioned quantity of jagory. Between every two crops of sugar must intervene two of rice, which are as productive as usual.

The number of sugar-canes cut annually amount to 6,260,400, which should produce about 4,471 maunds, of about 30lbs. each.

The sugar-cane cultivated about Nagara, is the maracabo, or stick-cane. The ground fit for it is that which has a supply of water in the dry season. Any soil will do, but a red earth is reckoned the best. In the month preceding the vernal equinox they plough four times, and then throughout the field, at the distance of one cubit and a half, they form with a hoe trenches one cubit wide and one span deep; they then cover the field with straw, dry grass, and leaves, and burn them to serve as a manure. The soil in the bottom of the trenches is afterwards loosened with a hoe; and a man, with his hand, opens up the loose earth, puts in a little dung, and upon this places horizontally, and parallel to the sides of the trench, cuttings of the cane, each containing four or five joints; these he covers with a little dung and earth. The cuttings are placed in one row, in each bed, the end of the one being close to that of another. Once a day, for a month, the canes must be watered with a pot: the young plants are then about a cubit high; and the earth round them having been previously loosened with a sharp-pointed stick, a little dung should be given to their roots. After this the ridges are thrown down, and the earth is collected

collected towards the rows of young cane, which by this means are placed on ridges, with a trench intervening between every two rows. Until the rains commence, these trenches must every other day be filled with water. In the month preceding the autumnal equinox, in order to prevent them from being eaten by the jackalls and rats (bandicotes), the canes are tied up in bundles of from five to ten, and each of these is surrounded by a service of straw rope. In ten months they are fit for cutting, and require no farther trouble. The crop season lasts one month. Five colagas of land, or about $\frac{45}{1000}$ parts of an acre, form what is considered as a large field of sugar-cane, and will produce one maund and a half of jagory, each maund containing 40 seers of 24 dudas-weight. At this rate an acre of cane would produce only about 80½ lbs.; but these people do not state the produce of their rice land at more than a third of the truth, and respecting the sugar they fall into at least an equal fault. Their mill consists of three cylinders, moving by a perpetual screw, and turned by a man with a capstan-bar which is fixed to the cylinder in the centre. No addition is made to the juice when it is boiled into jagory, which is done in flat iron boilers. The whole apparatus is extremely rude. On the second year a crop of ratoons is taken; on the third year the roots are dug up, and the field is again planted with cane, so that it is never reinvigorated by a succession of crops. If a sugar-cane garden be to be converted into a rice field, it is allowed a year's fallow before the rice is sown.

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April 6. At Baswapattana, near my tent, a farmer was at work, expressing the juice from sugar-cane and boiling it to form jagory. He said that his field contained a wocula of land. The taxes amounted to twenty pagodas, or £8. 2*s*. 3*d*. The whole expenses he calculates at twenty-six pagodas, or £10. 10*s*. 11*d*. The crop season will last thirty days; and on each he will boil three times, getting two maunds of jagory from every boiling; he therefore expects to get 180 maunds, which sells at the rate of three and a half pagodas for ten maunds. The whole produce, therefore, will be sixty-three pagodas, or £25. 11*s*. 1½*d*., leaving a neat profit of £6. 17*s*. 11½*d*., or seventeen pagodas, or very nearly twenty-seven per cent. on the gross produce. I did not measure the field. The cane was maracabo.

At Harihara, sugar-cane is the most considerable irrigated crop, as it requires but a small supply of water. In the intervals between the crops of cane a crop of rice is taken, should there be a sufficient supply of water; but that is seldom the case, and the intermediate crop is commonly some of the dry grains. The land when cultivated for grain pays the usual rent; when cultivated with sugar-cane, it pays three pagodas for every 1,000 double cuttings planted. Land that pays ten pagodas of rent is called a wocula of land, which, as it plants 6,000 double cuttings, pays when under sugar-cane eighteen pagodas, with two pagodas for the use of the boiler, making in all a rent of twenty pagodas for the wocula, as stated by the man at Baswapattana.

The account that follows was taken from a principal accountant (Sheristadar), who says that he is proprietor of a field, and is well acquainted with the process. The cane may be planted at any time; but there are only three seasons which are usually employed. One lasts during the month before and another after the summer solstice. This is the most productive and most usual season; but the cane requires at this time longer to grow, and more labour, than in the others; so that, although it pays the same tax only, it yields to the cultivator but little more profit. The other two seasons are the second month after the autumnal equinox, and the second month after the shortest day. Those crops arrive at maturity within the year. I shall confine myself to an account of the process in the first season. The kind of cane cultivated is the maracabo, of which, according to the Sheristadar, 4,800 canes are required to give one maund, or about 24¼ lbs. of jagory. When asked why he does not raise a better kind, the Sheristadar says, that the soil is too poor, and the climate too dry; both of which are, to all appearance, ill-founded excuses for an obstinate adherence to old custom. In the second month after the vernal equinox, the field must be watered, and eight days afterwards it must be ploughed once. After another rest of eight days, it must be ploughed again with a deeper furrow, four oxen having been put into the yoke. After another interval of eight days

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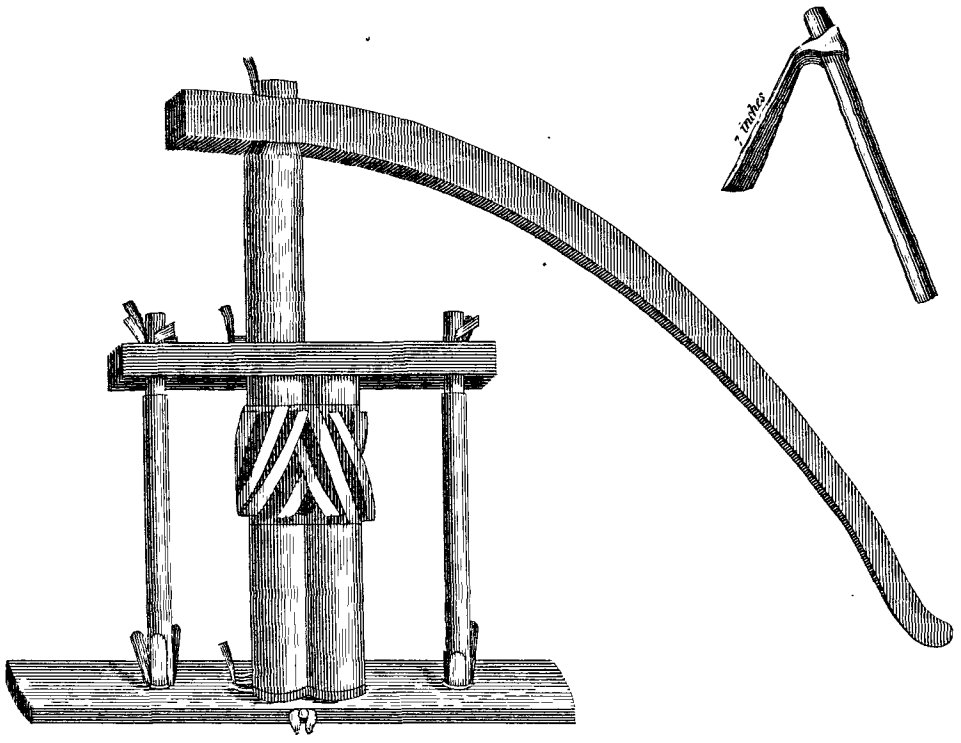
it is ploughed, first lengthwise and then across, with a team of six oxen. Then, at the distance of three or three and a half cubits, are drawn over the whole field furrows, which cross each other at right angles. In order to make these furrows wider, a stick is put across the iron of the plough. In the planting season two cuttings of the cane, each containing two eyes, are laid down in every intersection of the furrows, and are covered slightly with mud. The furrows are then filled with water, and this is repeated three times, with an interval of eight days between every two waterings. A little dung is then put into the furrows, and when there happens to be no rain, the waterings once in the eight days are continued for three months. When the canes have been planted forty days, the weeds must be removed with a knife, and the intervals are hoed with the hoe drawn by oxen. This operation is repeated on the fifty-fifth, seventieth, and eighty-fifth days, and the earth is thrown up in ridges toward the canes. In the beginning of the fourth month the field gets a full watering. Fifteen days afterwards the intervals are ploughed lengthwise and across, and to each bunch of plants a basket or two of dung is given and ploughed in. The weeds are then destroyed by a hoe drawn by oxen; after which channels must be formed between the rows, and until the cane ripens, which varies from fourteen to seventeen months, these channels are filled with water once in fifteen days. The crop season lasts from one month to six weeks. The mill is excessively rude, being two cylinders moved by a perpetual screw, and turned by a beam, to which four oxen are yoked. The wocula of land plants 6,000 double cuttings, and the bunch springing from the two cuttings planted at each intersection contains from eight to twenty canes. The average may be fourteen or altogether eighty-four thousand. These, at four thousand eight hundred for the maund, should produce not quite eighteen maunds, which is only one-tenth part of that which the man at Baswapattana mentioned, and he may be considered as having given a true account. The Sheristadar, however, on being pressed, acknowledges 120 maunds; but he is evidently a liar, and no dependence can be placed in what he says concerning the produce. I did not get any satisfactory account concerning the extent of ground called a wocula, but there is no reason to suppose any difference between the wocula of Baswapattana and that of Harihara. If we take 6,000 squares of $3\frac{1}{2}$ cubits as the extent of a wocula, it will give $3\frac{3}{4}$ acres, which pay a tax of 20 pagodas, or at the rate of £2. 2*s*. 9*d*. an acre.

The quantity of watered land in Concan-hully is not considerable; but a large proportion of it is employed to raise sugar-cane. This is all of the restali kind; the puttaputti not having as yet found its way into this district. The rent is paid by a division of the crop. The Government should have one-half, and usually receives 500 seers from the wocula of land, or about eleven cwt. an acre. This is so great a return, that I suspect some mistake. After sugar-cane, the ground must be cultivated with rice one year before sugar-cane be again taken.

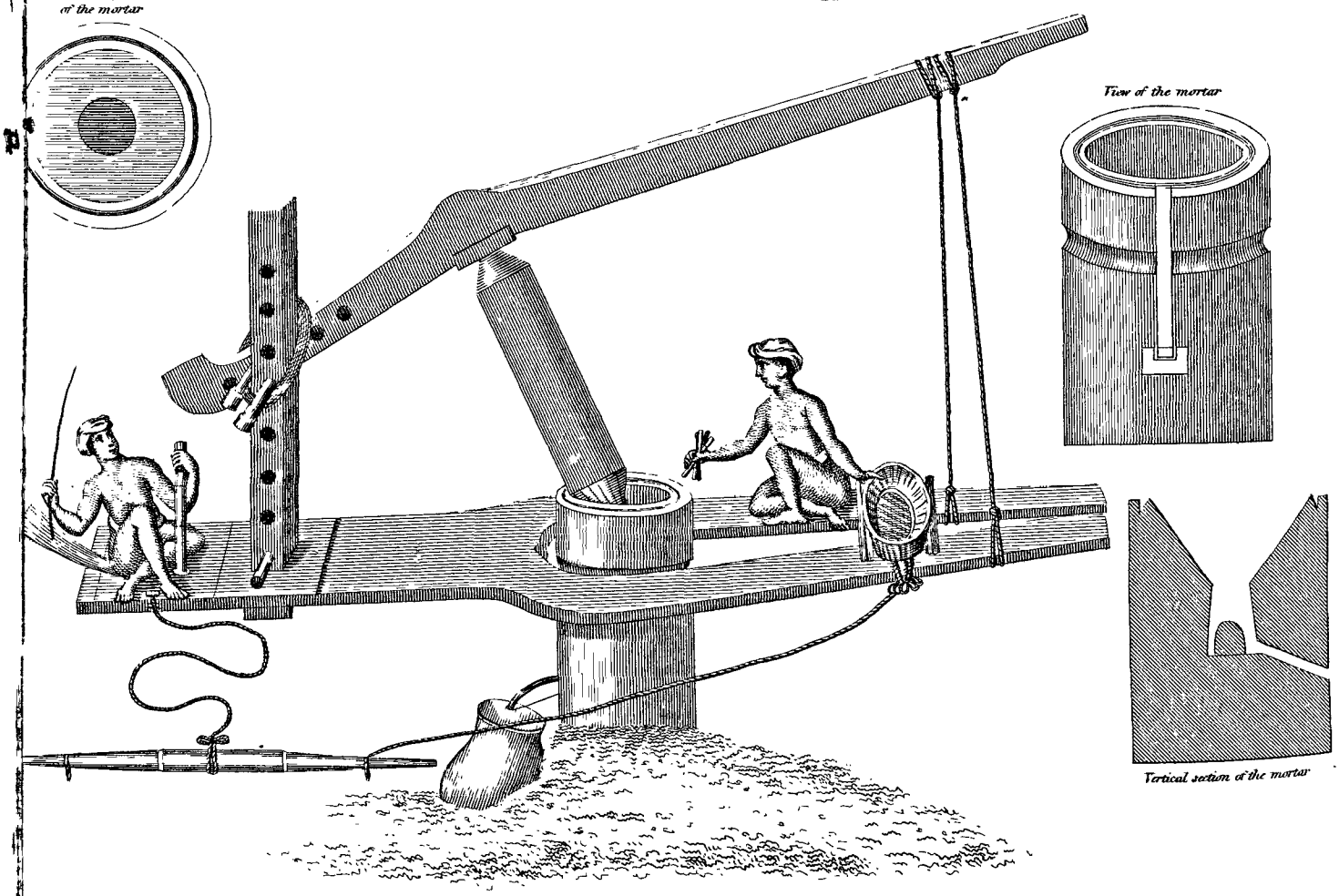
Price of sugar-cane jagory, at Kellamangalam, per cwt.....11*s*. $4\frac{7}{10}$*d*.

In the country of Kellamangalam in the Karnata territories, annexed to the Baramahal, a considerable quantity of sugar-cane is raised. There are four kinds; restali, puttaputti, maracabo, and chittuwasun. The soil required for each kind is different; so that they continue to be all cultivated, although the quantity of jagory given by the two last is a fourth less than that which the two first kinds afford. The jagory of the restali sells higher than that of the others, and the puttaputti cane is preferred for eating without preparation. The restali and puttaputti, with a fifth kind called caricabo, and nearly related to the puttaputti, require a rich soil. The maracabo and chittuwasun will grow any where, and will thrive even on a middling soil.

The restali and puttaputti are cultivated as follow. In the month after the shortest day, the field is twice ploughed. On the fourth, eighth, twelfth, and sixteenth day, it gets two double ploughings. With a billet of wood the mould is then broken small and is manured with dung. After this the field is ploughed twice, and in order to distribute the water, it is formed into ridges with channels between them. These channels are nine inches wide and deep, and nine inches apart. The cane intended for seed is cut into pieces, each containing three joints. The channels having been previously filled with water, a row of cuttings is laid in each, and sunk into the mud of its bottom, so as just



SUGAR MILL AT CHICA BALLAPURA.



SUGAR MILL OF CHINAPATAM.

Third Appendix to Report on East India Sugar, page 21.

just to be covered. The cuttings are placed horizontally, in a line parallel to the channels, and their ends are nine inches from the ends of those which are nearest. Every fifth day the channels are filled with water. On the tenth day the weeds are removed with a spade. On the twentieth day the field is hoed, and the earth from the ridges is thrown down upon the plants between the rows, so that channels are formed where at first the ridges were. The leaves of the young canes are at this time about nine inches high, and they require no water until the thirtieth day; when channels are formed so as to wind in a serpentine manner, with two rows of canes between each bend. When there is no rain these channels must be filled with water once in eight days, until the cane be ripe. When the stems begin to appear, they are brought together in clusters of from three to five, and bound round with leaves, so as entirely to exclude the light; and this must be carefully done as the stems rise from the ground, otherwise the rind will be thick, and the quantity of juice very small. The crop season begins in the second month after the shortest day of the second year, and in the course of thirty days all the canes must be cut. The space occupied by this crop, therefore, is fourteen months. A wocula of land produces eight maunds of jagory, and plants a thousand cuttings. The acre will therefore plant 3,942 cuttings, and produce about 6 cwt. 3 qrs. 7 lbs., worth £3. 17*s.* 4*d.* Buchanan's Journey through Mysore, &c.

The maracabo and chittuwasun, which is also called hullucabo, are cultivated exactly in the same manner; only they do not require to be tied in clusters, and they ripen a month earlier. A wocula of land produces only five maunds of jagory; so the acre produces 4 cwt. 1 qr. 4 lb., worth £2. 8*s.* $7\frac{3}{4}d.$

Between every two crops of sugar a crop of rice must intervene; but this is reckoned better than usual where no cane is cultivated.

The rent of sugar-cane is also paid by a division of the crop, which is conducted as follows. With a field that may produce about 360 maunds, and about which eight or ten farmers will be concerned.

Daily expense:

	Seers.	Fanams.
Rent of the iron boiler belonging to the Government	$1\frac{1}{2}$	1
Mill-rent	$1\frac{1}{2}$	1
Nirgunty, or conductor of water	$1\frac{1}{2}$	0
Shanaboga, or village accomptant	$1\frac{1}{2}$	0
Iron-smith, as a workman	$1\frac{1}{2}$	0
Ditto, as priest, or Pújári of Ganésa	$0\frac{3}{4}$	0
Oil, butter, and quick-lime	0	$0\frac{1}{2}$
	$8\frac{1}{4}$	$2\frac{1}{2}$

The mill commonly goes sixty days, and produces daily six maunds.

	Fanams.
Daily expense at sixty days, each at $2\frac{1}{2}$ fanams	150
Jagory, at $8\frac{1}{4}$ seers,=$12\frac{3}{4}$ maunds, at four fanams	51
	201
Total produce, 360 maunds, at four fanams	1,440
Balance	1,239

Annual expense for each mill.

Custom-house	5	
Carpenter and iron-smith	5	
Sacrifice of two lambs	4	
	—	14

This deducted from the former balance leaves a balance of...Fanams 1,225 which is divided equally between the farmer and the state as proprietor of the soil.

*** *Drawings of two kinds of sugar-mills mentioned by this author will be seen in the opposite page.*

STATISTICAL SURVEY *of the Districts of* DINAJPUR, RONGGOPUR, PURANIYA, BHAGALPUR, BEHAR *and* PATNA, SHAHABAD *and* GORAKPUR, *by* FRANCIS HAMILTON, M.D. (*formerly* BUCHANAN), 1809 *to* 1814. (*M.S. in the East-India Company's Library*).

DINAJPUR.

Plants cultivated on account of their Saccharine Juice.

Hamilton's Statistical Survey.

IN India several plants are cultivated in order to procure a saccharine matter from their inspissated juice, and are almost always articles of considerable importance. In this district several of these plants grow; but sugar-cane is the only one used. This, however, is cultivated with great success; and although the extent of land occupied by it is small, yet the value of the produce is great, and perhaps exceeds that of any single article raised in the fields of this district, rice and mustard-seed excepted. On an average the produce of a Calcutta bigah, or one-third of an acre, may be taken at twelve mons of inspissated juice, or about twenty-six hundred-weight the acre, and one-fourth more may be allowed for the richer soils, and one-fourth less for the poorer. The value varies very much; in some years, as the present, it falls to $1\frac{1}{4}$ rupee a mon; in others, as the last, it rises to $2\frac{1}{4}$; but the average may be $1\frac{1}{2}$ a mon, or a little more than two rupees a hundred-weight. The usual value of the whole annual produce, as coming from the farmer, may therefore be estimated at Rupees 4,50,000.

Sugar-cane requires a rich free soil, sufficiently elevated to be entirely exempt from inundation, but not so high as to be deprived of moisture, or as to encourage the production of white ants (termes). Of such land there is in this district a considerable extent, and a great part of it is now cultivated with this valuable article: for it must be observed, that in a proper system of agriculture the same field produces only one crop of sugar in three years, so that twenty-five thousand bigahs, stated as sugar-cane land, supposes that there are seventy-five thousand bigahs which are employed in the rotation; but it is only reckoned as sugar land in the year when the cane is cut, for in the two remaining years it gives other crops. It is probably owing to the selection of a soil so admirably fitted for the plant that the produce is so high; for there is little to be commended in the manner of cultivation. I do not think, while the cultivation is confined to such a soil, that it could be much extended, in the present state of the country; although much land formerly cultivated for sugar-cane is now applied to other purposes, or is waste; but this is chiefly owing to the drying up of the rivers, which has encouraged the breed of hurtful insects. Neither can it be considered as advisable to extend the cultivation to less profitable soils, with a view to speculation in foreign markets, which are already overloaded.

In my account of the cultivation of cotton, I have already given one of the best systems of rotation that is employed on this admirable soil, especially in the south near the Jomuna; but there are some others which require to be mentioned. In some parts, especially towards the north near the Tanggon, the rotation occupies four years: sugar seventeen months; rice seven; mustard, pulse, or wheat five; rice seven; mustard, pulse, or wheat five; rice seven; in all forty-eight months. The reason of this seems to be, that the soil near the Tanggon is poorer than that near the Jomuna; the average produce there being about nine mons the bigah, whereas on much good land in the southern parts of the district fifteen mons may be taken as the average produce, and twelve mons as that of ordinary land. Towards the Kulik, the produce equals, at least, that on the Jomuna. In other places the rotation is seventeen months sugar-cane, seven months rice, five months mustard and lentiles, or mustard alone, and seven months rice, in all thirty-six months. Some again, who are necessitous, take a crop of cane every two years, with rice, tobacco, or pulse in the eight months of interval between the crops; but this exhausts the ground. In every part of the country it is usual to plant a hedge of oror round the field of cane.

There

There are two kinds of sugar-cane, the khagra and kajoli. The former is a yellow hard cane not thicker than the finger, and is only used by a few farmers in the northern parts, who are too lazy to cultivate the kajoli which requires some more trouble. The kajoli has a tolerably thick stem deeply stained with purple, and often grows twelve and fourteen feet high. I shall give the full account of its cultivation. Hamilton's Statistical Survey.

The field, from about the middle of October until about the 10th of January, receives ten or twelve double ploughings, and after each is smoothed with the moyi. During the last three months of this time it is manured with cow-dung and mud from ponds or ditches. On this account the land fit for sugar-cane is generally divided into fields by wide ditches, into which much mud is washed by the rain, and is again thrown on the fields when the country dries, and leaves it enriched by innumerable aquatic vegetables and animals, that have died as the water left them. When the ploughing has been completed, the field is manured with ashes and oil-cake. In February and March the field is planted with cuttings of about a foot in length, which are taken from the tops of the ripe canes, that are cutting at that season. Trenches about four inches deep, and a foot distant from each other, are made by the hoe throughout the field; the cuttings are laid horizontally in the trenches, and are immediately covered by the hand. The field is then smoothed with the moyi; in about a month the young plants are two or three inches high; the earth is then raised from the cuttings by means of a spud, and the dry leaves by which they are surrounded are removed. For a day or two they remain exposed to the air, and are then manured with ashes and oil-cake, and covered with earth. Weeds must be removed as they spring, and when the plants are about a cubit and a half high, the field must be ploughed. When they have grown a cubit higher, which is between the 13th of June and 14th of July, they are tied together in bundles of three or four, by wrapping them round with their own leaves. This is done partly to prevent them from being laid down by the wind, and partly to prevent them from being eaten by jackals. During the next month three or four of these bunches are tied together; and about the end of September, when the canes grow rank, they are supported by bamboo stakes driven in the ground. They are cut between the middle of December and the end of March.

The khagra is cultivated nearly in the same manner, but does not require to be bound with leaves, as it is too hard for the jackals, and does not grow so rank as to be in danger from the wind. On the same extent of ground it produces about one-fourth part less of extract than the kajoli does.

It is only large farmers that cut an acre of cane in a year; one mill, therefore, and one set of the implements used in inspissating the juice, although very rude and simple, serve for several farms, and generally belong to some wealthy man, who lets them out for hire to his poorer neighbours, and the whole unite to clear each other's fields by turns; so that, although many people and cattle are employed at one of these miserable set of works, very few indeed are hired, and the greater part of the labour is performed by the common stock of the farms.

The juice of the sugar-cane is always inspissated before it is sold by the farmers; I shall now, therefore, give an account of the process. Sixteen men and twenty oxen assemble from the neighbourhood, and during the crop season continue to work night and day. Two oxen are required for the mill at once, but are relieved ten times a day. One man skilled in the operation is generally furnished by the owner of the works, and is usually the only person that is hired for the occasion. The canes freed from the leaves are brought to the works by each farmer in his turn. Some of the workmen cut them into pieces from an inch to half an inch long; others put these into the mill, and clear it of such as have been squeezed; another drives the oxen; another carries the pots of juice to the boilers, and others attend the fire. The juice is passed through a number of boilers until it is sufficiently inspissated, which, so far as I can learn, is when it has been reduced to one-fourth part; and nothing is either added or taken from it, nor is it even scummed, and

in

Hamilton's Statistical Survey.

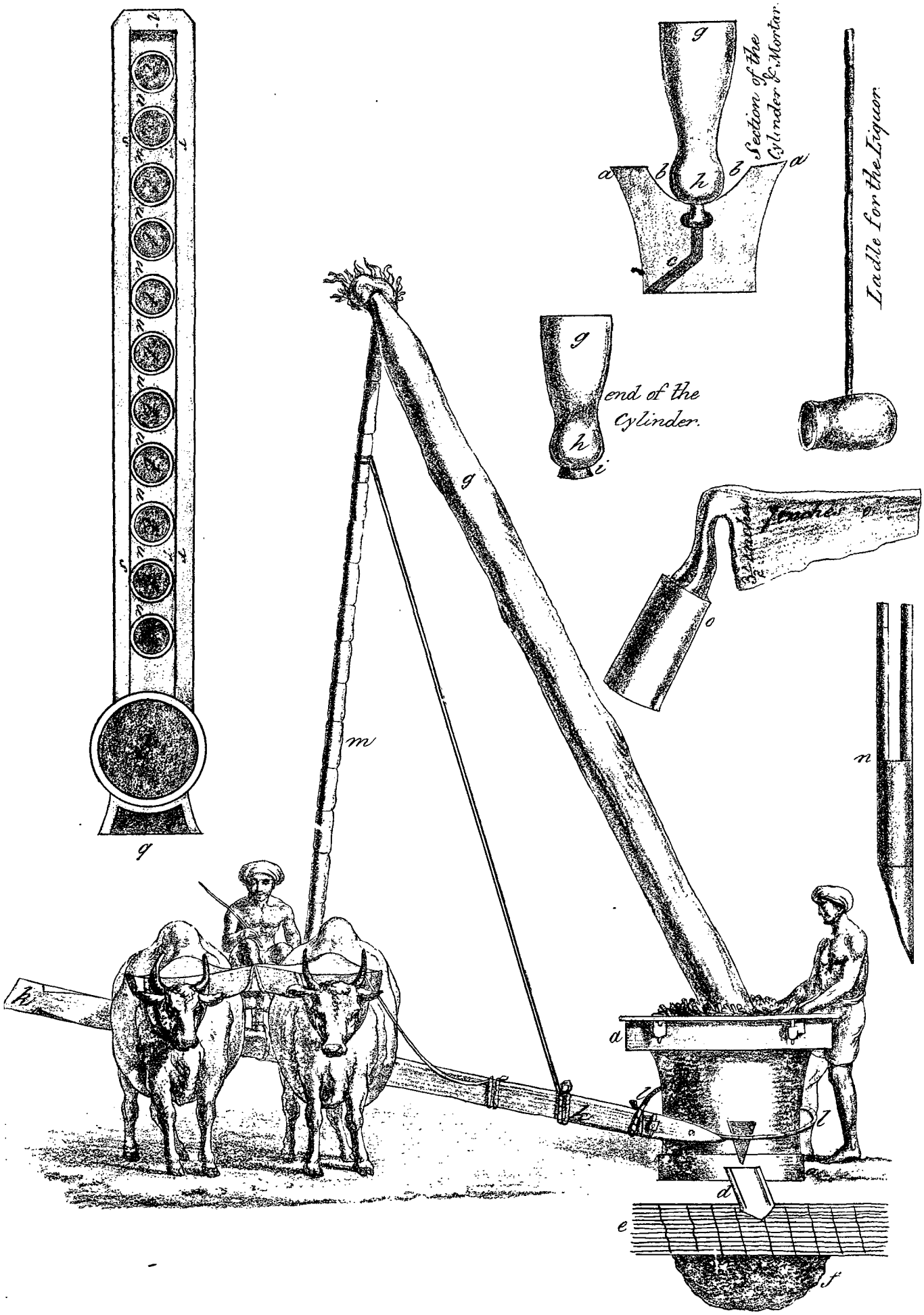
in fact, it contains many impurities. The inspissated juice, or extract of sugar-cane, is by the natives called gur, and is of two kinds, which among the natives are called by various names; but concerning these there is so much confusion, that I shall call the one cake-extract, and the other pot-extract, which term I prefer to the word jagory, commonly used by the English, as several substances of a very different nature are included under that name. The cake extract is more completely inspissated, so that, when cool, it becomes hard An oblong square hole, from twelve to eighteen inches long and from twelve to nine inches wide, is dug in the earth; a bag of coarse sackcloth is placed in it, and the inspissated juice is poured into the bag; when the extract has cooled, the bag is pulled from the earth, and the cake is shaken out. This is a black disgusting mass, weighing about 40lb., but is not so bad as the other, which is less inspissated, and is poured into earthen pots, which hold from one mon and a half to one Calcutta mon by weight, or from about 124 to 82 lbs. It is of the consistence of a thin extract, or of the inspissated liquor that comes from the cooler and is put into the hogsheads in a curing-house of Jamaica. The natives are very fond of both kinds mixed with milk in all its forms, or with grain prepared into various kinds of sweetmeats, all very disgusting to the eye. The pot extract is not so easily transported by water, and spoils in the first rainy season, which seem to be the reasons why a considerable quantity of the cake-extract is made, for the pot extract is thought best for eating, as being less liable to be adulterated with clay, a practice common in making the other kind, and it is preferred by those who make sugar, as being most fit for their purpose. The cake extract keeps tolerably well for eighteen months, stows easily in a boat, and cannot be so readily embezzled, as any portion removed from a cake would be instantly detected in delivery. A great part of the extract which is made in the northern parts of the district, where there are no manufactures of sugars, is therefore formed into cakes; while the sugar-boilers of the southern divisions require almost all that is made there to be of the pot kind.

A bigah, or one-third of an acre, of good land in the southern districts is reckoned by the farmers to produce 168 mons or 13,891 lb. of cane, and 14 mons or 1,159 lb. of pot-extract. Its produce of cake-extract is about 11 mons 24 ser, or 952 lb. The value of the pot-extract, at $1\frac{1}{2}$ rupee a mon, is 21 rupees the bigah; of the cake-extract, at $1\frac{1}{4}$ rupee for 40 sers of 58 sicca weight, the value is 20 rupees a bigah.

The leaves that were employed to tie up the stems serve for fuel to boil the juice. When the canes are cut, the fresh leaves and the squeezed canes are given to the cattle employed at the mill. In the northern parts the culture is not so well understood. The farmers there informed me, after reducing their weights and measures to the Calcutta standard, that a bigah produced only nine mons of cake-extract. The management of the plant differs somewhat. The cuttings are placed in furrows not quite a cubit from each other, and are covered by ridges, which are formed by drawing a furrow on each side of the row. The shoots, before they are planted, are sometimes soaked in water until the eyes begin to grow. When a foot high, the plants are freed from weeds. About the end of April the field is ploughed, and in the end of May the ridges are levelled with the hoe. The field is then ploughed five times. About the end of June the canes are three feet high, and are tied together. The mill requires only twelve oxen and eight men, but works only from about half after six in the morning until about seven at night. It clears about half an acre of cane in twelve days. In the northern parts of the district the fields are not manured with the earth from ditches, which will account perhaps for their being less productive; and the rents are very low, which will perhaps account for the neglect of manure.

On considering that the sugar-cane is only a portion of the rotation of crops taken from a field, and that this forms only a part of a farm, the whole wrought at a common expense by a common stock, it will appear difficult, if not altogether impossible, to state the expense of cultivation or profits which accrue to the farmers, but these must be very considerable.

The expense of cultivating sugar-cane is, however, considerably more than that of cultivating grain; and wherever sugar is reared the rent is high. In some



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Third Appendix to Report on East India Sugar. 1822. p 25.

some parts this is laid on openly; and the same field which when cultivated with grain pays one rupee, pays five when cultivated with sugar.

In most places, however, even this circumstance cannot be ascertained; for the rent of the whole higher land of a light free soil is raised, and the tenant may cultivate whatever he pleases.

But as the rent is made high in proportion to the quantity of sugar-land in the district, each farmer must receive his proportion, and he could not pay this rent should he neglect this valuable article. In such districts the whole land of this nature often rents for two rupees a Calcutta bigah, and more than one bigah out of ten is probably not cut in the year. On the whole, farmers in districts where sugar-cane is cultivated, are by no means richer than where grain is the only produce.

There only remains for me to describe the mill and boiler used in preparing the extract of sugar-cane, and which are usually let by the day. The mill (see accompanying plate) is on the principle of a mortar and pestle. The pestle however does not beat the canes, but is rubbed against them, as happens in many chemical operations, and the moving force is two oxen. The mortar is generally a tamarind tree, one end of which is sunk deep in the ground to give it firmness. The part projecting (a a a a) may be about two feet high, and a foot and a half in diameter. In the upper end of this is cut a hollow in form of the small segment of a sphere (b b). In the centre of this a canal (c) descends a little way perpendicularly, and then obliquely to one side of the mortar, so that the juice, as squeezed from the cane, runs through this canal, and by means of a spout (d) is thrown upon a strainer (e), through which it runs into an earthen pot that stands in a hole (f) under the spout. The pestle (gg) is a tree of about eighteen feet in length, and one foot in diameter, rounded into a foot (h) which rubs against the mortar, and which is secured in its place by a button (i) that goes into the canal of the mortar. The moving force is applied to a horizontal beam (k k) about sixteen feet in length, which turns round the mortar, and is fastened to it by a bent bamboo (l l). It is suspended from the upper end of the pestle by a bamboo (m) which has been cut with part of the root, in which is formed a pivot that hangs on the upper point of the pestle. The cattle are yoked to the horizontal beam at about ten feet from the mortar, move round it in a circle, and are driven by a man, who sits on the beam to increase the weight of the rubbing power. Scarcely any machine can be more miserable, and it would be totally ineffectual, were not the cane cut into thin slices. This is an expensive part of the operation. A man sits on the ground, and has before him a bamboo stake (n), which is driven into the ground, and has a deep notch formed in its upper end. He passes the canes gradually through this notch, and at the same time cuts off the slices with a kind of a rude chopper (o).

The boiling apparatus is better contrived. The mill is without shelter, but the boilers are placed under a shed. The fire-place is a considerable cavity dug into the ground, and covered by an iron boiler (p). At one side of this is an opening (q) for throwing in fuel, and opposite to this is an opening which communicates with a horizontal chimney. This is formed by two parallel mud walls (r r, s s), about twenty feet long, two feet high, and eighteen inches distant from each other. A row of eleven earthen boilers (t) is placed on these walls, and the interstices (u) are filled with clay, which completes the chimney, an opening (v) being left at the end for allowing the smoke to escape.

The juice, as it comes from the mill, is first put into the earthen boiler that is most distant from the fire, and is gradually moved from one boiler to another, until it reaches the iron one, where the process is completed. The furnace is on an excellent principle; and might be adopted in many manufactures to great advantage.

The execution of its parts, indeed, is very rude and imperfect. The inspissated juice that can be prepared in twenty-four hours by such a mill, with sixteen men and twenty oxen, amounts only to eight mons, of fifty sicca-weight the ser, or 476 lbs. It is only in the southern parts of the district, where the people work night and day, that this mill is so productive.

In the northern divisions, the people only work in the day-time, and do not inspissate one half so much juice.

Hamilton's Statistical Survey.

Manufacture of Sugar.

The manufacture of sugar is one of the most important in this district, and some of its productions have not yet been fully examined by chemists, being somewhat different from those procured in Europe. I shall therefore give a detail of the different processes at considerable length, and leave the properties of the different articles for future investigation.

The manufacturers of sugar purchase the extract or inspissated juice of sugar-cane (gur) from the farmers, and in general prefer that which is a little inspissated, and which is called royadar or danadar, from being of a granular consistence; and motki, kundo, hangra, from its being brought for sale in pots. As this, however, cannot be conveniently brought from a distance, some of the extract (gur), called dhima from being formed in cakes, or chaki from being formed in square masses, is also employed.

I shall first mention the buildings necessary for the operation. The boilers are of two sizes, one adapted for making at each operation about 540 Calcutta sers, or 1,105 lbs.; the other boils 464 sers, or 950 lbs. The former weigh about 600 lbs., and the latter 490 lbs. This will contain about 2,672 lbs. of water, or about 42¾ cubical feet, reckoning 1,000 ounces to the cubical foot. It is in shape of the segment of a sphere, nine feet in diameter at the mouth. The other is larger in proportion.

The boiler is sunk into a cylindrical cavity in the ground, which serves as a fire-place, so that its edge is just above the floor of the boiling-house. The fuel is thrown in by an aperture close to one side of the boiler, and the smoke escapes by a horizontal chimney that passes out on the opposite side of the hut, and has a small round aperture, about ten feet distant from the wall, in order to lessen the danger from fire. Some manufacturers have only one boiler, others as many as four; but each boiler has a separate hut, in one end of which is some spare fuel, and in the other some bamboo stages which support cloth strainers that are of use in the operation. This hut is about twenty-four cubits long and ten broad, has mud walls six cubits high, and is raised about one cubit above the ground.

For each boiler are required two other houses. One, in which the extract of sugar-cane is separated from the molasses by being strained, is about twenty cubits long by ten wide. The other, that is about thirty cubits long by eight wide, is that in which, after the extract has been strained, boiled, and clarified, the treacle is separated from the sugar by an operation analogous to claying.

Each sugar manufacturer has besides a warehouse, the size of which is in proportion to the number of boilers.

The walls of these three last huts are clay; and under the thatch, in order to diminish the risk from fire, they have a roof terraced with the same material.

The floor of the warehouse is raised two cubits above the soil. The whole premises are surrounded by a high wall of mud.

I shall now detail the most simple process by which the sugar is procured from the pot extract, as performed in a small boiler at Bodolgachhi, and by which the sugar, called badol in the neighbouring markets, is procured.

Take 640 sers (fifty-eight sicca-weight, or $1\frac{488}{1000}$ lbs. the ser) of pot extract, divided into four parts; put each into a bag of coarse sackcloth (choti), hang these over an equal number of wide-mouthed earthen vessels and sprinkle a little water on them; there will drain from the bags 160 sers of a substance called math by the natives, and which I consider as analogous to the molasses that flow from the hogsheads in a curing-house of Jamaica.

The remainder in the bags is called sar, and is a kind of coarse muscovado sugar, but is far from being so well drained and freed from molasses as that which comes from the West-Indies. Put the 480 sers of this substance into the boiler with 180 sers of water, and boil them briskly for 144 minutes; then add 120 sers of water, and boil 48 minutes more. In the mean time strain 60 sers of water through an earthen pot with some holes in its bottom, which is covered with straw, and over this the pot is filled with ashes of the plantain tree. Four sers of this clear alkaline solution are added to the boiling sugar, and

Hamilton's Statistical Survey.

and occasion a thick scum, which is removed. After 24 minutes three sers of alkaline solution and a quarter ser of raw milk are added, and the boiling and scumming are continued 24 minutes. This must be repeated from five to seven times, until no more scum appears. Then add 160 sers of water, take out the liquor, and put it into a number of strainers. These are bags of coarse cotton cloth, in form of inverted quadrangular pyramids, each of which is suspended from a frame of wood about two feet square. The operation of straining occupies about 96 minutes. The strained liquor is divided into three parts. One of these is put into the boiler with from a quarter to one ser of alkaline solution, one-sixteenth of a ser of milk, and nine sers of water. After having boiled for between 48 and 72 minutes, half a ser of milk is added, and the liquor is poured in equal portions into four refining pots. These are wide at the mouth and pointed at the bottom; but are not conical, for the sides are curves. The bottom is perforated, and the stem of a plantain leaf forms a plug for closing the aperture. The two remaining portions of the strained liquor are managed in exactly the same manner, so that each refining pot has its share of each portion. When they have cooled a little, the refining pots are removed to the curing-house, and placed on the ground for 24 hours; next day they are placed on a frame, which supports them at some distance from the ground. A wide mouthed vessel is placed under each to receive the viscid liquor that drains from them, which seems to be analogous to the treacle of the European sugar-houses, and which by the natives is called kotra, chite, and rab. In order to render the separation of these more complete, moist leaves of the valisneria spiralis (pata) are placed over the mouth of the pot to the thickness of two inches; after remaining ten or twelve days, these are removed, and a crust of sugar, about half an inch in thickness, is found on the surface of the boiled liquor. The crust is broken and removed, and fresh leaves are repeatedly added until the whole sugar has formed, which requires from 75 to 90 days. The sugar procured is usually 144 sers of 72 sicca weight, or $178\frac{44}{58}$ sers of 58 sicca weight, and the treacle is about 300 sers; so that in scumming and straining the boiled liquor very little is lost, or at least the loss is compensated by the water in the molasses and treacle; for the 160 sers of molasses strained from the extract, before it was boiled, must be also considered as part of the produce. When cake extract is used, it does not require to be strained before it is put into the boiler; but 480 sers of it are broken to pieces, and put at once into the boiler with 80 sers of water, and are then treated exactly in the same manner as the sar, or strained pot extract. The produce is reckoned to be usually 96 sers of sugar at 72 sicca weight the ser, or $119\frac{10}{58}$ sers at 58 sicca weight, 300 sers of treacle, and near 61 sers of scummings and strainings.

At Badolgachhi and some other places, it is not usual to carry the manufacture any farther. All sugar is considered as equally good, and the molasses and treacle are sold in that state. The former is used in several kinds of sweetmeats that are consumed by the poor. The treacle is used in preparing tobacco for being smoked; but the poor often use it in sweetmeats. Both may undergo farther operations from the boiler, but at Badolgachhi these are not usually performed.

I shall now therefore state the accounts which I received from a manufacturer of the profit and charge of the operation conducted in the manner which I have just now described.

Charge.

The boiling-house	Rs.	50	0
The curing-house		50	0
The straining-house		30	0
The warehouse		45	0
The fence by which these are surrounded		25	0
The iron boiler		96	0
		296	0
To pots of various kinds		38	0
To sackcloth for strainers		3	0
To cotton cloth for ditto		1	8
To bamboos		1	8
Carried forward...		340	0

Hamilton's Statistical Survey.

Brought forward	Rs. 340	0
To ashes of the plaintain tree	8	0
To milk	9	0
To mats on which the sugar is dried	5	0
To planks, laddles, &c.	1	0
To ropes and flax (pat)	2	0
To fuel (reed called birna)	125	0
To servants:		
One gomasta or agent, who also receives a commission on the extract from the cultivators at 4 rupees per month for 12 months	48	0
One watchman and messenger for 12 months	24	0
To one head boiler for 5 ditto	25	0
To 4 under boilers for ditto	30	0
To 1 weigher and strainer for ditto	10	0
To 4 workmen ..... for ditto	32	0
To 700 mons of cake extract at $1\frac{1}{4}$ R.	875	0
To 500 mons of pot extract at $1\frac{1}{2}$ R.	750	0
	2,284	0
Deduct the value of the buildings and apparatus at the end of the year	100	0
	Rs. 2,184	0

Produce.

By 700 mons (lb. 41,664) of cake extract (the ser 58 sicca-weight); 140 mons (72 sicca-weight the ser) or lb. 10,341) of sugar, at 6 rupees a mon,	Rs. 840	0
By 500 mons (or lb. 29,082) of pot extract, $112\frac{1}{2}$ mons (or lb. 8,312) of sugar, at $6\frac{1}{2}$ rupees	731	4
By 800 mons (or lb. 47,615) of molasses and treacle, at $\frac{3}{4}$ rupee	600	0
	Rs. 2,171	4
Loss	12	12
	Rs. 2,184	0

The apparent loss here arises from the estimate having been formed on what happened last year, when the crop was unfavourable and the price of extract high. In usual years, no cake extract is made into sugar, and the price of the pot extract, by the mon of 58 sicca-weight the ser, is seldom so high as $1\frac{1}{4}$ rupee.

Then the charges will be :—

To sundries	Rs. 659	0
To 1,200 mons of pot extract, at $1\frac{1}{4}$ R.	1,500	0
	2,159	0
Deduct apparatus	100	0
	Rs. 2,059	0

Returns.

270 mons sugar at $6\frac{1}{2}$	Rs. 1,755	0
800 mons molasses and treacle	600	0
	2,355	0
Profit	296	0
	Rs. 2,059	0

This

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This profit is probably somewhat underrated, and in this country would be a return totally inadequate for a capital of Rs. 2,000; but it will be seen in what manner this is made up to the manufacturer. The sugar made in this part of the country is called badol, and is reckoned the best in the district.

I shall now detail another account, and fuller process. It was given by a manufacturer of Chintamon, who owing to the failure of the crop last year, had given up business, as his capital was small, and he could not make advances until he recovers what has been already advanced, which may never be the case, at least so he seemed to think. He was therefore less liable to depart from truth in his account. All his weights are of the Calcutta standard, or 80 sicca weight for the ser. The extract is all of the pot kind, and, in straining it through the sackcloth, one-half comes away in molasses or math, whereas at Badolgachhi a quarter only drains through the bag.

To what circumstance this difference is owing I could not ascertain, whether to the juice having been less evaporated than at Badolgachhi, or whether the manufacturer of Chintamon applies more water than is done at the last mentioned place. The operation is nearly the same, only the sugar that is obtained by the two first applications of the leaves is kept separate from that procured by the third application, which is considered as of an inferior quality. Every mon or 40 sers therefore gives 20 sers of molasses, $7\frac{1}{2}$ sers of sugar of the first quality, $2\frac{1}{2}$ sers of the second quality, and five sers only of treacle, while five sers are lost in scumming. The quantity of treacle is diminished in proportion to the increase of the molasses. The custom near Chintamon is to prepare the molasses by boiling them three days, from morning until night. The quantity by this inspissation is reduced in the proportion of three to five. When this has been accomplished, the inspissated molasses are poured into pots, each containing $1\frac{1}{2}$ mons, or $123\frac{1}{4}$ lb.; a small quantity of sugar (a sixteenth part of a ser), and an equal quantity of potash, are put into each pot, and the contents are stirred about diligently with a stick until they become cool. It then forms a substance called khaugr, which sells at from 5 to $5\frac{1}{2}$ rupees the pot.

Every year one furnace could boil 1,500 mons of pot extract, although many manufacturers do not boil more than 1,000 mons, not being able to procure a greater quantity.

The following estimate will show the produce of 1,000 mons, or a little more than 82,000 lb.

To $187\frac{1}{2}$ mons of fine sugar at $7\frac{1}{2}$ rupees	Rs. 1,406	4
To $62\frac{1}{2}$ mons of coarse sugar at $4\frac{1}{4}$ do.	265	10
To 200 pots of inspissated molasses at 5 do. ...	1,000	0
To 125 mons of treacle at 1 do.	125	0
Produce.....	Rs. 2,796	14

The expense as stated by the same person.

1 agent or accountant 12 months.....	Rs. 42	0
1 weigher and messenger 12 months	15	0
1 head boiler 4 months	16	0
2 scummers ditto	10	0
2 men to supply fuel	8	0
2 strainers	10	0
2 curers	12	0
Wages.....	Rs. 113	0
Potash...	8	0
Milk	15	0
Fuel	120	0
Pots	24	0
Cotton cloth	2	0
Sackcloth	2	0
Bamboos and ropes	4	0
Porters	12	0
Sundries.....	Rs. 187	0

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The houses and boiler cost about Rs. 400, of which one-half should be deducted for interest, tear and wear, and insurance.

The total expense will be:—

Servants	Rs. 113	0
Sundries	187	0
Buildings and repairs	200	0
1,000 mon of extract	1,500	0
	Rs. 2,000	0

The profit therefore is Rs. 796 upon a capital of Rs. 2,000, but owing to the very great fluctuations in the market, this is liable to great variations. The price of the sugar (January 1808) is very high. The merchants refuse to take advances at $5\frac{1}{4}$ rupees for the mon of 72 sicca weight the ser, ($73\frac{8}{1}\frac{8}{0}\frac{5}{0}$ lb.), and stand out for six rupees, although the extract is very cheap, being below what I have stated as the common price. Indeed, if the estimate above given be accurate, they could not afford to sell it for less.

The sugar of this division, called phulvari, from the name of a pergunnah is reckoned to be of the second quality in the district.

There is another method practised, although I have not been able to procure any satisfactory account of the quantity of each article produced. The manufacturer follows the same method as usual, and applies the weed three times, at each time from twenty to twenty-five days.

All the sugar procured by this manner is of the same quality, if the weed is allowed to remain a sufficient length of time; it is only when a short time is allowed, that the third cake is of an inferior quality to the two first. After three applications, what remains in four pots is collected into one, and treated a fourth time with leaves, and then produces some sugar of the best quality.

This process goes on until the rainy season puts a stop to making sugar of the first quality. Then the kotra or treacle is boiled down to the thickness of pot extract, and is mixed with an equal quantity of that substance, and is treated just as the pot extract was by itself: this gives sugar of a second quality. The treacle from this is again treated in the same manner, and with the addition of an equal quantity of pot extract yields sugar of a third quality. The treacle from this is inspissated, and then treated as extract without receiving addition, and gives a coarse kind of sugar called buti.

The following was given as the produce of 1,000 mons at 90 sicca weight the ser, of 1,250 mons of 72 sicca weight the ser.

To 125 mons of 1st sugar, at 6 rupees	Rs. 750	0
To 75 ditto of 2d ditto, at $5\frac{1}{2}$ ditto	412	0
To 50 ditto of 3d ditto, at 5 ditto	250	0
To 25 ditto of 4th ditto, at 4 ditto	100	0
To $833\frac{3}{7}\frac{4}{2}$ ditto of molasses, at 1 ditto per mon of 60 sicca weight the ser, or 1000 mons	1,000	0
	Rs. 2,512	0
The price of the extract at $1\frac{3}{4}$ rupees the mon of 90 sicca weight the ser should be	1,750	0
	Rs. 762	0
Deduct expense	500	0
Profit	Rs. 262	0

Near the Korotoya the sugar is chiefly manufactured in this manner and is called ghoraghat sugar. It is reckoned the worst in the district.

The number of sugar manufacturers amounts to 141, and the boilers which they employ were stated to be 225. These, on an average, boil each 1,000 mons Calcutta weight, or altogether 225,000 mons.

The

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The sugar may amount to about one-fourth of this weight, or 41,219 cwt., and may be worth Rs 3,37,500, or a little more than eight rupees a cwt. The molasses and treacle may be about two-thirds of the weight, and may be worth about Rs.150,000. The raw material is produced in much greater quantity than the manufacturers consume; and by far the greater part of the sugar, and a large proportion of the molasses and treacle are exported.

All the manufacturers (goldars) are natives, and most of them are men of considerable wealth. Three or four thousand rupees for each boiler is the smallest capital that can carry on the business, and very few have borrowed money. Some live in a very decent manner like landholders, and some indeed have purchased considerable landed estates. A principal part of their profit arises from advancing money to the cultivators from whom they procure the extract. The farmers who want advances, in the end of June or beginning of July apply to a manufacturer, who sends a person to inspect the cane. The terms having been then settled, a kundo-khalasi or release is procured from the landlord, who accepts of the manufacturer's security for the rent, in place of his hypothe (on the crop), and the manufacturer becomes bound to pay the whole money, that is to be advanced by four instalments, into the hands of the landlord. In general this is sufficient to pay the whole rent of the farm. It is usual to advance from 12 to 15 rupees on the bigah, that is equal to half an acre. The extract is received in payment, at one-sixteenth below the harvest market price, which the manufacturers keep low, as no one bids until this has been arranged. The manufacturer besides receives the value, in extract, of half an anna, for every rupee advanced, and when the account is closed, from $1\frac{1}{4}$ to $1\frac{3}{4}$ annas on the rupee by way of interest. He therefore, on the whole, receives from $2\frac{3}{4}$ to $3\frac{1}{4}$ annas on each rupee that he has advanced, or from 17 to 20 per cent. Both landlords and farmers are desirous of dealing with the sugar manufacturers.

The Company occasionally takes some of the sugar, and a little is bought by the petty traders for the purpose of retailing in the country; but by far the greater part of the sugar, and much of the molasses and treacle, are exported to Murshedabad and Calcutta, on account of the manufacturers, who dispose of them by their agents.

The gur or extract of sugar-cane, the sugar, molasses, and treacle, are sent mostly to Murshedabad. A little is also sent to Narayongunj. These three last are mostly exported by the manufacturers.

RONGGOPUR.

Plants which give a Saccharine Juice.

The only one employed for this purpose, that is cultivated in this district, is the sugar-cane, and its cultivation is not near so extensive as in Dinajpur, and its crops are inferior to those of the southern parts of that country, but still are abundantly advantageous. Where the soil is good, the rotation usually occupies two years, there being a crop of summer rice or indigo between the two crops of sugar. In poorer soils three years are allowed, and on the third year one crop of summer rice, and another of mustard, pulse, wheat, or tobacco, are taken. The cultivation is conducted nearly in the same manner as in Dinajpur, and the field is always surrounded by a hedge of oror; except in the pergunnah of Haworaghat, where the fields are carefully fenced with reeds and bamboos. Both the khagra and kajoli, or yellow and red kinds are in use, but the former is the most common. I need not repeat what farther relates to this cultivation, having already, in my account of Dinajpur, mentioned every thing applicable to it.

The sugar-mill and boilers are exactly on the same principle with those of Dinajpur, but from their size are divided into two kinds. The rakhyosi is the same with that used in Dinajpur, and need not be again described. The kol-gachh is smaller. The mortar is made of a jak tree, but the cavity, where the pestle rubs, is lined with eight wedges of the flacourtia, which are supported by wedges of bamboo, both of which, when worn out by the friction of the foot of the pestle, can be easily replaced. The canes are cut into pieces eight inches long, which are laid on the sloping part of the mortar, and the juice is expressed by part of the pestle passing over the cuttings. The juice

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is partly received in the central cavity and partly in that which surrounds the outer circumference of the mortar, and from each is conveyed by a spout into an earthen pot.

The cost of this machine is as follows:

To a jak tree for a mortar	Rs.	1	8
To a tamarind tree for a pestle		2	0
To a beam of any common tree		0	8
To the carpenter for making		1	8
Total	Rs.	5	8
To an iron boiler, which holds 4 mons of juice, and weighs $1\frac{1}{2}$ mon, (60 sicca weight the ser)		12	0

But this seldom belongs to the proprietor of the mill, who usually hires it at 4 rupees a season. In the furnace of this kind of sugar-work there are only seven earthen boilers; and, as in the other, the juice is gradually passed from one to another, and is finally inspissated in the iron boiler. One proprietor (kandu), seven common labourers (payit), and three pair of oxen, are sufficient for a set of works of this kind. They boil from three to five times a day, at each time four mons of juice, and at each boiling obtain half a mon of extract (gur); on an average, they say, ten mons in six days. This extract is so little inspissated, that in straining one half separates as molasses. This kind of mill is chiefly used where little cane grows, so that a quantity sufficient to employ a rakhyosi cannot be procured within a reasonable distance. It is a very wretched machine.

The expenses of this mill are as follows:

To mill and boiler	Rs.	9	8
To 7 labourers' wages, at 10 annas a month each for 4 months		17	8
To food for the same		17	8
To 10 sers of extract for each		2	0
To the wages of the head man at $1\frac{1}{2}$ rupees		6	0
To 7 gundas of cowries on each pot of juice for the proprietor of the mill		4	8
	Rs.	57	0

The whole of these charges fall on such of the farmers as have no mill, except that the owner pays the people's wages on the days when they are working his cane. His profit, therefore, consists in having his own cane wrought at a smaller expense, and in the duty of four and a half rupees paid on the juice, and this will pay the interest of the money advanced. The gur prepared by one of these mills may be 200 mons, worth about 216 rupees, so that the expense of working, owing to the imperfection of the machinery, is enormous. I have allowed nothing for the oxen, each farmer bringing his own.

The extract made by the rakhyosi is better inspissated, and sells higher by about an eighth part.

The mon used in these calculations is of 40 sers of 60 sicca weight each, or about $61\frac{6}{10}$ lb.

Manufacture of Sugar.

The crops of cane are more scanty than in Dinajpur, less land is cultivated, and the manufacturers are poorer and less skilled in the art; but the plan of conducting the business, and the processes are the same. Only fifty-two boilers are employed. In general each man has only one boiler, and none has more than two.

The money is often nominally advanced to the farmers who own the mills, but in fact is always paid to the owner of the land, as his release from the hypothec on the crop is necessary.

The pot extract is always employed, and is so badly inspissated that half runs through the strainers, and a considerable part is sometimes even separated by decantation, as it floats on the surface of the pot.

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The quantity made by each boiler, and the value of the produce, is nearly the same as in Dinajpur. The Company purchases most of the best for ready money: the remainder is in general sold on the spot.

Fifty-two boilers will consume about 52,000 mons of extract, which will give 13,000 of sugar, of which 10,000 mons may sell at 6 rupees, and 3,000 at 4 rupees, altogether Rs. 72,000. The molasses and treacle may amount to 82,000 mons, worth an equal number of rupees; total, Rs. 104,500. The prime cost of the material, at market price, would be 1½ rupee a mon, or Rs. 76,000, leaving only Rs. 26,000 for the expense of manufacture and profit.

The sugar is exported by the Company to Calcutta, and by individual s:o Dhaka, Murshedabad and Serajgunj. A little sugar-candy is imported, nd some of it, with some country sugar, goes to Asam. Some sugar is sent to Vihar.

The extract of sugar-cane, molasses, and treacle, are exported to Serajgunj, Dhaka, and Murshedabad, with a little to Asam, the Garos, and Vihar.

PURANIYA.

Plants cultivated on account of their Saccharine Juice.

Exclusive of the palm, mentioned among the plantations, the only plant of this description is the sugar-cane. The cultivation of this valuable article is chiefly confined to the banks of the Kankayi and their vicinity, where it is carried to a great extent, but is performed in a most careless, unskilful manner, so that the produce is truly wretched. A want of attention to manure and to weeding are the grand features of neglect, although a good deal of injury arises from a want of proper selection in the kind. A very little of a most wretched kind called nargou, from its resemblance to a common reed, is used, and gives almost no juice. The greatest quantity is of the very poor kind called khagri, from its resemblance to a large reed of that name. It does not grow thicker than the finger, and in my account of Dinajpur has been already mentioned. A larger kind is called bangsa, from its being thick like a bamboo; but the magnitude of this is only thought great, from its being compared with the others. It differs from the kajali of Dinajpur in its stems being entirely yellow. Towards the frontier a very little of this kajali also is raised. In the whole district I did not see a field of good growth. This could not be attributed to the soil, which in that vicinity is remarkably rich; but is entirely owing to the want of care, which is so great, that I scarcely saw one field of which the cattle had not been allowed to eat a considerable portion.

Little or none of the extract that is prepared in this district is made into sugar, the few manufacturers that are, being chiefly supplied from Dinajpur. The quantity reared is not quite adequate to the consumption, and some is imported; but the difference is not considerable, as some is again exported.

The farmers reduce the produce still lower than I have stated, but I do not think that dependance can be placed on what they said; and they reduced it by deducting all the expense of labour that it is paid in kind, which is a considerable proportion. The amount of the produce stated in the tables is supposed to be the whole extract procured from the canes growing in the district. About equal quantities of the pot and cake extracts are prepared.

It must be observed, that the whole produce stated here would not pay for the expense which in Ghoraghat is bestowed on the cultivation; but the expense here is a trifle, and the farmer has a considerable profit. The reason of so little trouble being bestowed probably is, that little or no additional rent, either direct or indirect, is laid on the land producing sugar. In my account of Ronggopur I have stated, that in the parts of the same estate which belonged to the Bordhonkuthi family, and were low rented, no one would take the trouble to cultivate sugar-cane, while on the share that belonged to Dinajpur and paid a high rent, this valuable plant was cultivated with the utmost care. The low rent of most parts of this district, and the total disregard paid to the quality of the soil in the rate of assessment, seem to have prevented the people from paying any attention to rich crops, and where the sugar-cane has been introduced, it receives very little care or expenditure, and its returns are

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scanty in proportion. In some places they do not bestow even the smallest quantity of manure.

The sugar-mill and boilers are of the same kind as in Dinajpur.

Manufacture of Sugar.

This is at a very low ebb, and is conducted on the same plan as at Ronggopur ; but about one half of the raw material is procured from Dinajpur. The whole is consumed in the country, and is far from being adequate to its supply.

The sugar comes from Dinajpur, Tirahut and Patna. The greater part is fine sugar, made in imitation of what we call clayed, and which the natives call chini ; but there is a very little of a kind called sukkur, which comes from Tirahut. It is very inferior in quality to the cihni. Asmall quantity of chini is sent to Nepal.

Extract of sugar-cane (gur) comes from Dinajpur and Patna.

Molasses and treacle (math and kotra) come from the same places.

BHAGALPUR.

Of Plants cultivated for Saccharine Juice.

Besides the palms and the mahurya tree already mentioned, the only article under this head is the sugar-cane. It is chiefly cultivated near the banks of the mountain rivers, where it can be supplied with water by means of canals, and in the vicinity of Rajmahal, where it grows with more luxuriance than I have any where else observed. In the interior it is not so rich, but still is tolerably good, and is cultivated with some care. The lands there are level and rich, and under constant crop, much as in Ronggopur and Dinajpur; but in Rajmahal, they are swelling, and rather stiff, but the field generally, although not always, is allowed a year's rest between the crops. In the former places the product usually stated was $5\frac{1}{2}$ mons a bigah (Calcutta weight and measure) of the extract: but this is ridiculous ; for although the natives stated, that the greater part of their cane is of the small kind like a reed (nargori), I saw none such, and my assistants recollect very little. I do not think, therefore, that less than ten mons of the thinner extract (rab) can be allowed for the bigah. Very little of the cake extract is made.

There is here a greater variety of kinds than in any of the districts hitherto surveyed. Of the kajli khagri and nargori I have already had occasion to treat. The kajli is by far the best, and is confined to the vicinity of Rajmahal ; but the mango of other places seems to me to be the same, and is chiefly used for eating without preparation, and much is consumed in that manner. The paungdi and raungda are tolerably large yellow canes, and one of them at least would appear to be the same with the bangsa of Puraniya ; but both agree with what I was able to notice concerning it. The kiruya is a poor small cane.

The sugar-mill (kalu) is of the same kind with the kolgachh of Ronggopur. The iron boiler is however in general larger, and the number of earthen pots, through which the juice passes before it comes into the boiler, where the inspissation is completed, is much smaller, soldom exceeding five. A set of works clears about five acres of cane in a year, and is usually made at the joint expense of from five to ten neighbours, who may rear that quantity, and who unite their cattle and servants to clear the whole crop. The iron boiler is the only part of the apparatus at all valuable, and is often hired by the season.

Manufacture of Sugar.

The confectioners of this district prepare from the extract of sugar cane, not only some of the kind of sugar called chini, the process for which has been already detailed, but they make a good deal of a coarser kind called shukkur, which is that chiefly used on the spot. I have not been able to learn the process.

Sugar prepared like that which in Europe is called clayed, comes from Patna, Gazipur, and Dinajpur, by the way of Junggipur.

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The extract of sugar-cane comes from Behar, Dinajpur, and Virbhum. That exported is sent to Murshedabad and Calcutta. Hamilton's Statistical Survey.

Treacle and coarse sugar (shukkur) comes from Patna, Gazipur, and Banaras.

BEHAR AND PATNA.

Of Plants cultivated for their Saccharine Juice.

Besides the palms and the mahuya tree already mentioned, the only article under this head is the sugar-cane, which is cultivated to a great extent. It was estimated that this amounts to 20,000 bigahs. The kinds are ketar, baruka mango, shukurchina, raungda, and paungdi. The three latter are thick, and their juice is very sweet, on which account they are eaten, but are not used for expression. The ketar is the kind with stems no thicker than the finger, and is said to be the most common, but I saw none of it; my people however recollect a great deal. It seems to be the same with the keruya of Bhagalpur. All the three kinds, in common use for the mill, have yellow stems. The crop lasts eighteen months, but ratoons of the ketar occasionally are preserved, in which case there are two crops of cane in two years and a half, but the second crop is very poor. During the six months that remain, either after the one or the two crops of cane, to complete the two or three years, the field gives a crop of grain, after which the cane is again planted. Any high good land, whether stiff or free, is chosen for this valuable plant; and it is carefully watered, and in some places is allowed a little manure, but in others it is alleged, that, if manured, the cane, although it grows more luxuriantly, gives a poor juice, that is not fit for yielding extract. The extract is chiefly of the thinner kind preserved in pots, and the average produce in different places is stated at from ten to twelve mans a Calcutta bigah, which seems to me a fair enough estimate.

The sugar-mill entirely resembles that of Bhagalpur. The whole expense is about thirty-one rupees, and the machinery requires to be renewed once in five years Some old iron remains, but that does not do more than pay for annual repairs The machinery, therefore, costs six rupees a year, bills one rupee, pots one rupee, cattle hired by the season six rupees; the total annual expense is, therefore, about fourteen rupees. This is usually raised by a contribution among those who use the mill, no person having as much field as one mill will clear, although this does not exceed ten bigahs Calcutta measure, or about three acres. They mutually assist each other at the mill.

Of the Manufacture of Sugar.

In every part of these districts several of the confectioners prepare the kind of coarse sugar called shukkur, which in fact is entirely similar to the muscovada sugar of Jamaica, and is prepared by putting some of the thin extract of sugar-cane (rab) into coarse sackcloth bags, and by putting a weight on these to squeeze out the molasses (chhoya): according to the care with which the operation is performed, the shukkur amounts to from $\frac{1}{2}$ to $\frac{25}{40}$ of the whole. At Behar, where the thin extract was worth $1\frac{1}{4}$ rupee for forty sers or 82lbs. nearly, and where this quantity gave twenty-five sers of shukkur, these were valued at $18\frac{3}{4}$ anas, and the 15 sers of molasses were valued at $5\frac{1}{2}$ anas, so that performing this trifling operation the workmen had a gain of $4\frac{1}{4}$ anas, and the shukker sells for about 2 rupees $8\frac{11}{12}$ anas a hundred-weight.

At Behar there are fifteen houses of the Mahuri tribe, who refine this shukkur by a very rude process, and make what is called kachcha chini or raw sugar. They place 25 sers of the shukkur in a basket, and on the surface lay some of the aquatic plants usually employed to refine sugar. In this district the valisneria spiralis is not so common as in Bengal, but is always preferred when it can be procured. When it cannot, the serpicula verticillata of Dr. Roxburgh, and several pomotogetons are used. After standing three days, about $2\frac{1}{2}$ sers of refined sugar are scraped from the surface, and more plants are applied, and this is repeated until the whole shukkur has been exhausted. From the twenty-five sers of shukkur it is alleged that, on an average, there are procured eight sers of this raw sugar, worth fourteen anas, and seventeen sers of molasses, worth six anas, so that the profit on the operation is $1\frac{1}{4}$ ana. It can only be performed in the

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the heats of spring. It is alleged that the whole of the raw sugar made by these fifteen houses amounts to about 300 mons, and that the shukkur sold is worth Rs. 7,000. At this rate, the quantity of shukkur will be 1,49,334½ sers, which will require rather more than 5,973 mons of extract, worth Rs. 74,66¼; and the profit will be about Rs. 1585; and there will be also procured 2,240 mons of molasses, worth about Rs. 2,053. Farther, the 300 mons of raw sugar, worth Rs. 1,287½, will require 1,500 māns of extract, worth Rs. 1,875, of which 1,200 mons will be molasses, worth about Rs. 1,058½, leaving a profit of Rs. 471. The whole profit of the fifteen houses being therefore Rs. 2,056, each will have Rs. 137, which seems to agree with appearances. Most of this sugar is consumed in the vicinity, and is purchased as made by petty traders, who dispose of it at the weekly markets, nor are any advances made either by these or to the farmers who rear the cane.

Neither are any advances made by the sugar-makers of Helsa, who prepare their sugar (chini) by boiling, who are more wealthy men than those of Behar, and whose works are called kolsar or godam, of which there are twenty. They gave me the following account of the manner in which they manage ten mons (400 sers or 821 lb.) of extract, which is probably less inspissated than that in the vicinity of Behar, as it gives only one-half of its quantity of shukkur, and sells one-fifth cheaper; so that the shukkur costs exactly the same money. The extract, in order to form shukkur, is here first squeezed in coarse bags of sackcloth, containing each about 40 lb. It is afterwards squeezed in bags of strong cotton cloth, containing each about 30 lb. Of the shukkur one mon (82 lb.) is put into an earthen vessel, with about 41 lb. of water, and boiled for about twenty-four minutes. About this time a froth has arisen on the surface, and then 4 lb. of milk and 8 lb. of water are gradually added, while the liquor continues to be boiled for three hours. It is then strained through a cotton cloth, spread on a basket, and the strained liquor is called sira, from whence perhaps our word sirup. The sira is again boiled for about twenty-four minutes in small earthen vessels, each containing from 4 to 6 lb. The contents of the whole are emptied into a large earthen cooler called a nad, which has in its bottom a hole, that is plugged with a bamboo. After the liquor has stood two or three days in the nad, the bamboo is pulled up, and the treacle is allowed to flow for two days. The aquatic plants are then applied two fingers thick, and in two days there are cleaned about 6 lbs. of sugar, which are scraped off, and the plants again applied. Three mons (246 lbs.) of boiled liquor in one cooler give one mon of sugar and two mons of treacle, and require thirty days to be exhausted. The sugar forms in grains, that in this country are considered too large for sale. It is, therefore, reduced to a fine powder, by putting it in a bag on which a man treads with his feet. Each factory in a month may make about 100 mons of pot extract into sugar, and the expense and profits are said to be as follow.

To 100 mons (8,234 lbs.) of extract	Rs. 100	0
To ox hire for bringing it to the works	2	0
To earthen pots	2	6
To fuel (cow-dung)	4	0
To two labourers	4	0
To milk	2	0
To aquatic plants	2	0
To house-rent	2	0
To bags	1	0
To profit	29	10
	R. 149	0
By 50 mons molasses (chhoya)	27	0
By 30 mons (garuya) treacle	20	0
By 17 mons sugar	102	0
	R. 149	0

They only work five months in the year, so that each house will gain Rs. 148; but they also make a good deal of shukkur, although the exact quantity I do not know; and they make a small quantity of a coarse sugar called bhura, the process for which I did not learn. Their gain, however, is not less than

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than Rs. 160 a year. The sugar is considered as somewhat inferior to that made in Dinajpur. It is not adequate to the consumption of these districts. The confectioners make some sugar-candy, but I did not learn the process.

Sugar and extract of sugar-cane come from Gazipur, Shahabad, and the north side of the Ganges, and are sent down the Ganges.

Molasses, and coarse sugar called bhura, come from Gazipur, and are sent towards the east.

SHAHABAD.

Of Plants cultivated for their Saccharine Juice.

Besides the palms, and the mauhuya already mentioned, the only article under this head is the sugar-cane, with which almost 4,000 bigahs are occupied. The cultivators reckon seven kinds, reongra or rioda, saroti, or sarotiy, mango, barukka, bhoronga, kaiva, and bhurli. They are all small canes not thicker than the finger, and have all yellow stems, nor could I learn the marks by which the one is distinguished from the other. The mango is reckoned the best for eating, but all are fit for making sugar. The different kinds are adapted for different soils, and require some slight differences in management, as will appear from the tables. The high land near villages, in some places, is alleged to produce a cane large, indeed, but filled with a juice that gives little saccharine matter; in the other places it is preferred to the lower fields. The land is always manured by gathering cattle on it for some nights. The crop of cane occupies more than twelve months, but in the course of two years the field always gives a crop of cane, and another of some of the kinds of grain that are reaped in the end of the rainy season. The average produce is reckoned as high as in Behar, although all the fields that I saw looked very poorly; but the people said that the crop this year had been uncommonly bad. The extract, orinspissated juice, is usually made up in roundish balls, being boiled more than when intended to be preserved in pots, on which account the produce, although nominally the same as in Behar, is somewhat larger.

The sugar-mill is similar to those in Behar, but the apparatus for inspissating the juice is more imperfect than in any district hitherto surveyed. There is only one boiler, a shallow iron vessel, which is placed in the open air, on three or four lumps of clay, so that the fuel may be thrust under its bottom; this vessel is filled at once with the juice, which is boiled to the proper consistence, while a little ghiu or milk is added, and it is scummed, but with very small care. When the workman judges the consistence sufficient, the boiler is lifted from the fire. When the extract has cooled, it is scraped out with an instrument, and made by the hand into five roundish lumps, each weighing about three sers (80 sicca weight), or $6\frac{47}{100}$lb., and is the nastiest-looking stuff that I have ever seen. In three months a set of works, with seven men and four oxen, is supposed to clear four large bigahs of cane ($6\frac{4}{10}$ acres), boiling from three to four times a day; at this rate the total produce of what one set of works clears in a year will be 4,725 sers, or 9,702 lb. The expense of machinery and cattle is nearly the same as in Behar; that is, may amount to 14 rupees, equal to 364 sers of extract. Each labourer receives daily $\frac{1}{14}$ ser of the extract, so that the workmen take $787\frac{1}{2}$ sers, and the total charge of boiling and squeezing the cane amounts to $1,151\frac{1}{2}$ sers, nearly $\frac{1}{4}\ \frac{24}{100}$ of the gross produce.

Of the Manufacture of Sugar.

In this district the preparation of sugar does not form a distinct art; some of those who make sweetmeats, as in Behar, prepare the coarse sugar called shukker, and a little sugar-candy; but on these subjects I have nothing new to offer.

Refined sugar (chini), the coarse sugar (shukker), the molasses, and the treacle, come from the district of Merzapur.

Cake extract of sugar-cane is imported from Gazipur in Merzapur, and is sent partly to Beliya in the same district, but on opposite sides of the Ganges, and partly to Patna. It is not an article of great importance; but the exports

Hamilton's Statistical Survey.

are probably more considerable than stated, as the people do not consume many sweets, and there is a good deal produced.

NORTHERN PART OF GORAKHPUR.

Of Plants cultivated for their Saccharine Juice.

Besides the khajur palm and the mahuya tree, the only article of this kind is the sugar-cane, which occupies about 4,800 bighas. There are four kinds, reongra, mango, sarotiya, and baruka, all of which are reared in Shahabad. All are fit for yielding extract. The cultivation is managed as in that district, but most of the extract is of the thin kind, preserved in pots. Manure is always given to this valuable plant.

The sugar-mill is like the larger kind described in the account of Rongopur.

Of the Manufacture of Sugar.

The seventeen houses of sugar-boilers have about twenty-four boilers. At Pararona I procured the following estimate for one boiler.

Produce.

50 mans (98 P Wa ser) or 498lb. of 1st quality .	Rs. 350	0
50 ditto..... of 2nd quality	312	8
225 ditto of kangcha sira or molasses	150	0
100 ditto of paka sira or treacle	66	10
425 ditto 3,341lb.	Rs. 879	2

Expense.

450 mans of rab gur or thin extract of sugar-cane.....	Rs. 675	0
Fire-wood	20	0
Pots	9	0
Cloth for strainers	5	0
3 labourers for eight months	88	0
Milk	4	0
Ox-hire for bringing home the material	6	0
Water plants	4	0
Iron boiler, lasts $4\frac{1}{4}$ years	6	0
	Rs. 817	4

Some of the sugar is exported, some sold to petty traders (beparis), who carry it to different market places. They work from about the middle of January until the middle of November: that is, they begin so soon as new extract can be had, and work so long as what they have been able to secure will last; nor do they consider the season as of any consequence. They purchase all the extract by advances, and nominally give only $1\frac{6}{16}$ rupee for the man; but bad debts raise the price to $1\frac{1}{2}$ rupee, as charged in the account of the expense, the loss being about one rupee on every eleven advanced.

Sugar fine (chini) and coarse (sukkur), is imported, and comes chiefly from the part of the district on the right of the Ghaghra, but also some from Sarum. That exported goes chiefly to Patna; but a good deal also is sent to the dominions of Gorkha. The extract of sugar-cane comes from the same parts as the sugar, and some is exported in the same manner, but some goes to Merzapur or the towns in the vicinity, where sugar is made. The treacle and molasses imported come from the same places with the sugar. None is mentioned in the exports, but there is reason to think that the manufacturers at Parraona send some of the latter, especially to Merzapur.

HISTORICAL *and* STATISTICAL TRACTS *on* INDIA, *by* Dr. Heyne, 4to. 1814.

Heyne's Historical and Statistical Tracts.

Sugar is manufactured in many parts of the country about Nundydroog (in Mysore); they understand the process very well, and of manufacturing candy and loaf sugar. In the more northern districts, they can make nothing but jagory and a kind of coarse powdered sugar. The sugar-cane cultivated is mostly of the red variety. The farmer does not consider it is a profitable article of culture; it impoverishes the land so much, that three years must be suffered to elapse before sugar can be raised a second time upon the same field.

HISTORY *of* JAVA, *by* Sir T. S. RAFFLES, 1817.

Raffles' History of Java.

Of the sugar-cane, or according to the native term, tébu (the name by which it is designated, not only on Java, but throughout the Archipelago) there are several varieties. The dark purple cane, which displays the greatest luxuriance aud shoots to the length of ten feet, is the most highly prized. By the Javans the sugar-cane is only cultivated to be eaten in an unprepared state, as a nourishing sweetmeat. They are unacquainted with any artificial method of expressing from it the saccharine juice, and, consequently, with the first material part of the process by which it is manufactured into sugar. Satisfied with the nourishment or gratification which they procure from the plant as nature presents it, they leave the complicated process to be conducted exclusively by the Chinese.

The cane, as in the West-Indies, is propagated by cuttings of about a foot and a half long, which are inserted in the ground in an upright direction, previously to the setting in of the rains. The Chinese occasionally use oil-cake for enriching the lands; but where the plant is only raised for consumption in its fresh state, no manure whatever is thought requisite; and a good soil, without such preparation, will yield three or four crops in succession.

The cane is extensively cultivated for the juice in the vicinity of Batavia, where there are numerous manufactories, principally owned by the Chinese. It is also cultivated for this purpose in considerable tracts at Japara Pasuruan, and partially in other districts of the eastern provinces, where mills are established for expressing it. Previous to the disturbances in Cheribon, sugar likewise was manufactured in that district in considerable quantities, and furnished an important article of export.

Large quantities of a coarse and homely sugar, distinguished by the name of Javan sugar, are prepared from the cocoa-nut, areca, and other palms. The average quantity of liquor extracted from one of these trees during a day and night, is about two quarts, and this is estimated to give from three to four ounces of sugar. The trees begin to yield it at about six or seven years of age, and continue to do so for ten or twelve years. The process of preparing the sugar is extremely simple; it consists merely in boiling the liquor in an earthen pot for a few hours, and afterwards pouring it into small cases made of leaves, and prepared for the purpose, in which, when cool, it attains a due consistence.

Sugar from the cane is manufactured by the Chinese alone; the process followed resembles that of the West-Indies. The juice is expressed between two rollers, sometimes turned by water wheels, but in all cases the machinery is rude and imperfect. The quality of the sugar made on Java is considered to be equal to that of Manilla and the West-Indies; it contains as much of the saccharine principle as the latter, and is brought to a drier state. It differs from the sugar of Bengal as much in its quality as in the mode of preparing it, but can be brought to market at about the same price.

Considerable quantities are sent to the Malabar coast, but the principal exportation is to Japan and Europe.

The

Raffles' History of Java.

The extensive produce of this fine island in sugar and coffee of superior quality, and the pepper and various other articles, either yielded by it, or collected from the neighbouring countries, such as sago, tin, Japan copper, spices, elephants' teeth, sticklac, long pepper, cubibs, tortoiseshell, gold, diamonds, Japan wood, ebony, rattans, indigo, &c., present fine subjects for commercial speculation to all parts of Europe and America, the Cape of Good Hope, and the Mauritius; and the more so, as from the extensive native and European population, a very considerable and constant demand exists for the produce and manufactures of Europe, not only for the consumption and use of the island itself, but to supply the neighbouring Malayan states by way of barter.

The quantity of sugar seems to depend almost entirely upon the demand, and is likely at all times to equal it, few countries affording equal advantages for its manufacture.

Owing to the want of a demand for this kind of produce, for several years antecedent to the conquest many of the manufactories were discontinued; but since the trade has been opened and the demand renewed, many of them have again commenced working, and the quantity produced in the year 1815 was not less than twenty thousand pikuls.

The manufacturers being no longer compelled to deliver their produce to Government, can afford to sell the sugar at Batavia at from four to six Spanish dollars (or from twenty to thirty shillings) per pikul, the quality being distinguished into first, second, and third sorts, of which the first may be bought in the market for exportation at six Spanish dollars per pikul, or about twenty-five shillings the hundred-weight. The quality of this sugar is altogether different from the sugar in Bengal, and is said to be equal to that of Jamaica, being manufactured in a great measure according to the same process. While the European market is open for coffee and other light articles, the sugar of Java is always in demand for dead weight, and large quantities have recently been sold in the London market, as high as ninety, and one hundred shillings per hundred-weight.*

SOME ACCOUNT *of* COCHIN CHINA, *by* MR. ROBERT KIRSOP, *who was there in the year* 1750.

Kirsop's Account of Cochin China.

The Chinese have the greatest share of the trade of Cochin China, carrying there toothenague,† china-ware, tea, and great quantities of medicinal roots and

* By an official statement of the quantity of sugar manufactured at Batavia, and the various residences of the island of Java, from the year 1779 to the year 1808, it appears that

In the year 1779 it was 30,131 pikuls
In the year 1800 106,513
In the year 1801 107,498
In the year 1808 94,903

that during the first fourteen of these years, the quantity made and delivered over to the Company for export to Holland, Persia, &c. amounted to 642,234 pikuls, or to an average of 4,874 annually, two of these years being almost entirely unproductive, on account of the non-payment to the manufacturers of money to enable them to carry on their business. During the latter half of the period, or from 1794 to 1808, the quantity manufactured and delivered over to the Company amounted to 917,598 pikuls, averaging 65,542 annually. All the sugar for export, during this period, as stated in the text, was delivered over at fixed rates to the Government, and was placed under laws of the strictest monopoly. To shew the great practicability of an increase to almost any extent, we may adduce the sudden start in the supply occasioned by the American demand in 1800. In no preceding year had this article of produce been delivered over to the Company, to a greater amount than 67,552 pikuls, and in that year the quantity sold at Batavia to Americans alone, amounted to 91,554, and for the subsequent years averaged 100,000 pikuls, and sold for 900,000 Java rupees, or £110,000 sterling. The principal part of this was manufactured at Batavia, the quantity supplied by Jawana, Japara, Cheribon, Surabaya, and Semarang, being but proportionally small till 1803, when Japara contributed to the exports of the island in this article, 12,219. In 1804, the same province supplied 21,175 pikuls. The disadvantage under which the manufacturer laboured, by forced deliveries at inadequate rates, need not be here insisted on, though it must be taken into the account in any estimate of the attainable increase of the manufacture.

† The English MS. "There is nothing better, or scarce any thing else that will do to carry "to Cochin China but toothenague, which the King always engrosses to himself, commonly "at fourteen quans per pecul. You will find in what toothenague you sell the King, you will "have 3 per cent. loss in the weight. If a ship goes from India the latter end of April, it will be "safest

Kirsop's Account of Cochin China.

and herbs; and the little that has been had from any part of India, makes it not very certain what commodities would answer for that port. Tin will sell from twenty-two to twenty-five quans per pecul: there can be no loss upon dollars. Toothenague is all engrossed by the King at thirteen and fourteen quans per pecul, and trials may be made of sandal-wood and pepper; a little cutlery will sell. It will not require a great stock to procure a cargo of sugars for a small vessel, which will be most proper to send at first; the profit of the returns will answer, if only you save yourselves on the stock there. A sort of cash made of toothenague is the only currency of the country; six hundred, making a quan, is nearest in value to two rupees,* and is divided into ten mace or tean, of sixty cash each, the whole strung up together, and divided by a knot at each mace.

The weights are exactly the same as in China, and they use dodgins after the same manner; only for sugars they have them one-half larger than for any other commodity: so that you have 150 common China cattys, or 200 lbs. to each 100 cattys or pecul of sugar; though the most of the Chinese have them ten cattys larger, making the pecul of sugar 160 common China cattys †

The best commodity the country produces for a cargo is sugar. The finest sugar-candy is generally sold for five quans two mace to four quans five mace per pecul;‡ fine white powder from four quans to three quans five mace; a middling sort, like that of Manila, about three quans, and the brown powder from two quans six mace to two quans. They bring it down for sale in the months of June, July, and August; but the greatest quantity in the latter end of July,§ when the Chinese are busy buying it up to send to China. The Portuguese factor, that has permission to stay there, frequently buys in the latter end of August and September, after their ships and all the junks are gone, considerably cheaper than the prices above mentioned. The women will sometimes be sitting in the streets with small samples, but they come generally to the houses of those that are considerable buyers, and after the price is agreed by this sample, they bring it all into your yard; and there, before it is weighed, each basket is tried by a long taper bore, by which you easily detect any fraud. It is always in very unhandy baskets of 400 or 500 weight each,‖ and each parcel (which may be from five to fifteen baskets) of a different sort; for which reason it is customary to start all your sugars, and to mix well together what comes nearest in quality, and at your own expense repack it into smaller baskets.¶

" safest to carry toothenague, if it can be bought so cheap that you can have your own money " for it, as you have the advantage of receiving new cash from the King; but if gold is dear, you " will lose nothing by carrying dollars, and selling them at your arrival to the Portuguese or " Chinese, who not being able to invest the returns of their toothenague in sugars, are obliged " sometimes to carry gold at a great disadvantage. The greatest part of your stock ought to be " in dollars or toothenague, for other goods are not to be depended on at first, till they have been " tried, unless a little cutlery, in low-priced spring-knives and scissars, which I am sure would " sell well; a few piece goods of various kinds might be carried for a trial, and a slab or two " of lead." The Spanish MS. says, " There will be no loss on cowries, cochineal, sulphur, balate " (or sea slug), and blue dye (tinta azul), only to the amount of 5,000 or 6,000 dollars for the " first voyage."

* The Spanish MS. " Seven rial ($\frac{7}{8}$ of a dollar) at which rate, a little more or less, the dollar " may be sold."

† The English MS. " The weights, in Cochin China, are by the establishment of the country " the same as in China; only dodgins made on purpose for sugar, which you may have as large " as you please; the people knowing it, will make their price accordingly."

‡ The Spanish MS. " Three, six, to four coans per pecul of China." English MS. " Sugar-candy " is generally bought for between four quans five mace and five quans per pecul of 150 catty, and " white powder sugar three, four, to four quans, middling brown sugar from two quans and upwards " per pecul."

§ The English MS. " It will be necessary in the latter end of July, at farthest, to get in your " money for every thing the King has bought of you, &c. at court, and to send it to Faifoe, and go " there yourself, for about that time the sugars are brought down out of the country; and August is " the only month wherein you can have sugars, plenty and cheap, and may buy your cargo as fast " as you can get it weighed and packed."

‖ The English MS. " It is customary to allow for the baskets twenty cattys, unless you think " they weigh more." A. D.

¶ English MS. " You may repack it into baskets of what size you please, the whole charges of " repacking, shipping, &c. not amounting to above fifty cash per pecul."

Mr. MARSDEN'S HISTORY *of* SUMATRA, 1811.

Marsden's History of Sumatra.

The sugar-cane (tubbu) is very generally cultivated, but not in large quantities, and more frequently for the sake of chewing the juicy reed, which they consider as a delicacy, than for the manufacture of sugar. Yet this is not unattended to for home consumption, especially in the northern districts. By the Europeans and Chinese large plantations have been set on foot near Bencoolen, and worked from time to time with more or less effect; but in no degree to rival those of the Dutch at Batavia, from whence, in time of peace, the exportation of sugar (gula), sugar-candy (gula batu), and arrack, is very considerable. In the southern parts of the island, and particularly in the district of Manna, every village is provided with two or three machines, of a peculiar construction, for squeezing the cane; but the inhabitants are content with boiling the juice to a kind of sirup. In the Lampong country they manufacture from the liquor yielded by a species of palm tree, a moist, clammy, imperfect kind of sugar called jaggri in most parts of India.

Mr. MACPHERSON'S HISTORY *of the* EUROPEAN COMMERCE *with* INDIA, 1812.

Macpherson's History of Commerce.

The Company have been accused by Smith's followers of discouraging the productive powers of the territories in India. Indigo, it is acknowledged, has been brought to great perfection; but the success of it, we are told, "may fairly "be ascribed to its being left to private adventure;" and that the production of sugar, cotton, raw silk, and sunn hemp has been discouraged, though those articles might be imported from India to a great amount.

The reader has already seen what the Company have done for promoting the cultivation of Indigo. It may not, however, be improper here to ask, whether any private trader, or any small society of private traders, could or would, have submitted to such a privation of the use of a very capital sum, in order to establish a trade, which would eventually be beneficial to their country in a distant day, perhaps, when they should not be alive to reap any benefit from it? Such sacrifices can only be made by a corporate body, possessing a degree of immortality.

About the year 1789 the quantity of sugar produced in the British West-India Islands was found to be much inferior to the demand for home consumption and for exportation, the trade with every part of Europe being then free to British merchants; and the public were distressed by the rise of the price. The distress was soon after aggravated by a deficiency of the sugar crop in the British Islands, and a total failure of importation from the important French Island of St. Domingo, occasioned by the insurrection of the negro slaves. The Company's territories in Bengal are capable of supplying sugar for the consumption of all Europe, if a regard for the interest of the West-India planters did not render a very great extension of the East-India sugar trade improper, and if the duty upon it were not so high as to render the importation of it a losing business, except when the price happens to be very high in this country. In April 1789 the Company sent orders to Bengal for shipping a quantity of sugar, which, arriving at the time when the price, owing to the circumstances just mentioned, was enormously high, was sold with some profit. The Company, thinking that Bengal ought to be considered as a British territory, and seeing that the British West-India sugar could not stand in need of a protecting duty, when the quantity of it was so very inadequate to the demand for home consumption and exportation to the Continent, applied to the Lords of the Treasury for a reduction of the duty, but without success. If the duty upon East-India and West-India sugar were equalized, the difference of the freight upon so heavy an article would still operate as a protection to the latter, and effectually prevent any larger importation of the former than what may be brought as ballast along with finer and lighter goods. From what is now stated, it is evident, that a very large importation of East-India sugars would be ruinous to the West-India planters, whose property is too large and important to be sacrificed, and also to the importers.

porters. With regard to the balance of trade, for which many of our political economists are so anxious, it is proper to remember that the whole first cost of East-India sugars must be paid in bullion, whereas West-India sugars are mostly paid for with British merchandize, and a great part of the balance paid to the proprietors of sugar estates, is spent by them in this country. Macpherson's History of Commerce.

An ACCOUNT *of the* METHOD *and* EXPENSE *of* CULTIVATING *the* SUGAR-CANE *in* BENGAL, *with Calculations of the First Cost to the Manufacturer and Exporter, and suggestions for attracting that article of Eastern Produce exclusively to Great Britain; in a Letter from a* PLANTER *and* DISTILLER *in* BENGAL *to his Friend in London,* 1794.

Advertisement by the Editor in 1794.

The following letter may be considered as a continuation of the report upon sugar, published by the Committee of the Court of Directors, on the 29th of February 1792, since the writer has pursued the line of investigation therein expressly laid down. The production of it cannot fail to prove acceptable to the public, since it developes the cheapest methods of cultivating sugar-cane, and manufacturing the produce, ever yet made known to Europeans. Letter from a Bengal Planter.

On a subject of such importance to this country, the public at large cannot be possest of too much, nor of too early information. The facts detailed are indisputable, though some of the calculations appear erroneous. Whether the writer's conclusions be well or ill-founded, time and experience must demonstrate. In the meanwhile, those who are most materially interested in the event, may now have opportuuity of taking timely measures for guarding against the probable consequences of this discovery.

The intelligent writer, for some particular reasons which no longer exist, wished this letter neither to be printed nor circulated in manuscript; but the friends to whom it came addressed, considering that their compliance with such injunction would be a manifest injustice to him, and moreover an injury to the West-India proprietors, as well as to the Sierra Leone Company, have thought it incumbent on them to submit it to the public, trusting that it will be received as the production, currente calamo, of a gentleman immersed in extensive business, and entitled on that account to candid allowance. The editor, in addition to a similar plea, has the want of local reference to urge, in excuse for producing it so imperfect to the reader.

Letter from a Gentleman in Bengal to his Friend in England, dated Purnea, 5th March 1793.

My dear Sir:—I had the pleasure of addressing you in the year 1790, on the subject of Bengal sugars, and, as connected therewith, took the liberty of offering some arguments in favour of the distilleries recently established here.

Since that period I have been pursuing the sugar trade in all its branches with various success.

My inquiries have also been occasionally directed to the cultivation of the sugar-cane in those districts where it is most abundant, in order to ascertain, as nearly as possible, the annual produce of a given quantity of land, and the expense of cultivation and manufacture, to be able thereby to form some judgment of the natural or real cost of sugar to this country.

Upon a subject of so much importance to the prosperity of Bengal and the interest of Great Britain, as connected therewith, whether considered in a commercial or political point of view, I presume to hope, that every information which can throw a light thereon, will prove acceptable at this period; I shall therefore proceed to state the result of my experiments and inquiries, with

Letter from a Bengal Planter.

with such observations as have suggested themselves to my mind, on this valuable and important article of commerce.

From the high price which sugars now bear in Europe, and the extraordinary demand thereby created for East-India sugars of every denomination, there can be little doubt of a ready sale for all which Bengal can furnish for some years to come, provided the impediments which obstruct her commerce are lessened, and the prices here kept moderate by an increased produce.

The late abolition of duties on the importation of goods produced in these provinces into the Company's territories on the coast of Coromandel, and the western part of India, has also greatly increased the export trade from hence, and in no article so considerably as sugar. During the last north-east monsoon, the quantity of sugars exported from this to the Malabar coast far exceeded that in any former year since my residence in India, and must (although influenced by other causes) be attributed, in a great degree, to the liberal regulations, with respect to duties, which have lately been adopted. A still more considerable export has taken place within these few years from the upper provinces to the Dekhan by land; for by accounts from Benares, I am informed that the quantity exported by inland traders in 1787-8 was only 19,715 12 4 maunds, and it has increased yearly from that period to 101,839 3 4 maunds, the exports of 1790-1. Last year, 1791-2, it declined to 66,652 2 maunds, in consequence of the great demands from Calcutta, which increased the importation here 38,421 maunds beyond that of the preceding year, and which was of course drawn from what would have been exported to the Dekhan, being nearly the difference between the exports thence of 1790-1 and 1791-2.

To recover at once a branch of trade long lost to this country, and to have new markets opened to an extent unknown, for the consumption of one of the most valuable productions of Bengal, whether considered as an article of husbandry or commerce, combined with the permanent security which the glorious termination of the war with Tippoo Sultaun has given to the B possessions in Asia, and to the dominions of their allies, mark this æra o government of Earl Cornwallis with events the most happy and prosp that ever happened in any age or country.

We, who reside upon the spot where these great objects of extended commerce, just, wise, and beneficent government, with the exaltation of national character, have been so recently attained, are, by participating more immediately therein, more strongly interested in their preservation, and of course contemplate with anxious solicitude, every measure by which they can be affected.

o increase and perpetuate the rising resources of Bengal, and direct their beneficial influence to the extension of British commerce, we look up to his Lordship's enlarged views of the real interest of the Company and the nation at large.

These desirable ends, I make bold to say, are only attainable in their full extent, by a more liberal commercial intercourse between the two countries, than now exists.

Whilst the sugar produced in the West-Indies (from the late unhappy events in the French colonies) are inadequate to the supply of Europe, there can, as I before observed, be little anxiety with regard to the sale of Bengal sugars under almost any increase of cultivation; but it is certainly a matter of great consideration to the prosperity of this country, and the revenue arising therefrom, to secure a certain future demand for the additional produce, which will speedily arise from the present encouraging circumstances.

To ensure this, and make England the European mart for Bengal sugars, they must be enabled to meet those of the West-Indies upon more equal terms in the English market than they do at present; and permanent regulations must be established here, for the support and encouragement of both the cultivator and the manufacturer.

Were individuals, under proper restrictions, permitted to import Bengal sugars on their own ships into England, subject to the same duties and drawbacks

Letter from a Bengal Planter.

backs as the sugars from the West-Indian Islands, the rest of Europe would be supplied through that medium; but if the trade is confined to the Company's chartered ships, with no abatement to the present duties and charges payable to Government and to the Company, it is obvious that all or the greatest part of the sugars exported from this country, will be carried away in foreign ships or by contraband tonnage under foreign colours.*

The late reduction of freight by the Company to £15 per ton, seems to have been adopted principally with a view to encourage the exportation of sugars from hence to England; and, provided the Company's tonnage were adequate to the accommodation of all the private goods offered for freight, would have a very beneficial effect; it is, however, a strong and unequivocal mark of the attention of the Court of Directors to the interest of both countries.

But even this abatement of the expense of conveyance, compared with the former rate of freight on the Company's ships, will not effect the desirable purpose intended, whilst the tonnage is so unequal to the demand, and whilst other modes of conveyance can be furnished at less than half that price.

It is incontrovertible that, under existing circumstances, the sugars of Bengal may and will be furnished to the Flemings at Ostend, which is a free port, cheaper than they can be sold by individuals in England, by all the amount of the duties payable to Government and to the Company, and the difference of freight. It is also evident, that the proprietors of ships fitted out at Ostend for this place can afford to give so much more price, as the difference of freight, charges, re-freight, and duties in England amount to, for all the sugars they purchase here, and thereby will be enabled speedily to monopolize the whole produce.

To place this matter in a clear point of view, and shew the advantages which the direct trader to Ostend, under foreign colours, has over the circuitous fair trader by the way of London, as also how much cheaper these sugars can be sold to the Fleming than to the English consumer, I will suppose an equal quantity of sugars now loading here for the ports of London and Ostend. I will suppose that quantity to be 800 tons, or the amount of an Indiaman's cargo, destined for the London market, on the Company's ships; and the like quantity destined for Ostend market on foreign bottoms; that the sugars are of the same quality, and purchased at the same rate; and I will charge the sugars for Ostend with the present rate of freight on foreign bottoms, or £10 per ton, which will probably soon be lower; or if the merchant or shipper is the proprietor of the ship, ought not to be three-fourths of that sum. Under these suppositions, the difference in favour of the direct Ostend trader over the circuitous English trader, on one Indiaman's cargo, will appear to be no less a sum than £22,817, and that the consumers of sugar in the Netherlands can be furnished with this quantity of Bengal sugars at a cheaper rate than the consumers in England in the sum of £60,953 sterling, or about 8¼ per lb., as the following calculates will shew:

Eight hundred tons of sugar sold in England at 156*s.* per cwth e price which Bengal sugars sold for at the East-India Company's sales on the 2d January last, £124,800.

If this sugar is sold for home consumption, the Englishman must pay more for it than the Fleming, by the amount of the following sums:

Customs, at £37. 16*s.* 3*d.* per cent.	£47,190
Company's duty and warehouse rent, 7 per cent.....	9,763
Difference of freight, £5 per ton.....	4,000
	£60,953

* "The mere commercial profit that may result to the Company in their mercantile capacity, may "not at first, perhaps, be an object of any essential moment; and, considered as lords of the soil, it "is in a manner of little consequence to them whether the sugars of Bengal are carried from thence "in British or foreign bottoms; but, actuated as your Committee have ever been, by a desire "of rendering Great Britain the grand mart for supplying all Europe with the commodities of "the East, they would feel infinite regret in beholding any branch of Indian commerce carried "on by the shipping of other nations, which, under proper arrangements, might be rendered "instrumental in promoting the trade and navigation of our own."—Directors' Report upon Sugar, 29 Feb. 1792, p. 57.

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If the sugar is sold for exportation, the fair English trader is subject to the following charges, from which the trader under the Imperial flag is exempt :

Difference between Government duty and drawbacks, £1. 15*s.* per cent., which reckoned on the above sum of £124,800 is	£2,184
Company's duty and warehouse charges, 7 per cent.	9,763
Difference of freight, £5 per ton	4,000
Commission to an agent in England to purchase in the sugars and re-ship them to Ostend, with freight, shipping charges, wastage, &c. 5 per cent.	6,240
Insurance from London to Ostend, 15*s.* 9*d.* per cent	630
	£22,817

It will appear, then, that the difference of freight and duties in favour of the direct Ostend trader amounts nearly to the prime cost of an Indiaman's cargo of the finest sugars at this market, even at the present advanced price, which is more than 50 per cent. above the medium of former years.

This will enable him to give 100 per cent. more for his sugars than the English merchant, and sell them at the same price ; or if he purchases on equal terms, he can undersell him in that proportion.

Admitting the prices in Europe fall to one-half of what East-Indian sugars sold for in January last, still the difference in favour of the exporter to Ostend compared with the exporter to England, will enable the former to give 50 per cent. more for his purchases here, and even then trade on more advantageous terms than the latter.

Is it possible, under such circumstances, to preserve this recent and valuable branch of commerce to England? Surely not. No prohibitory regulations, nor even the severest laws, will operate against so high a premium for breaking them. Nothing can direct this new stream of wealth into Great Britain, but equal and moderate duties, and a regulated open trade, in which all British subjects may participate, and the national capital and spirit of enterprize be thereby turned to its proper purpose, and not unwisely forced into the impure channels of a contraband trade, to the aggrandizement of foreign states and impoverishment of our own.

I selected the port of Ostend to argue from, on account of its vicinity to England, and as being the most convenient place for British adventurers, under foreign colours, to sail from ; but the same reasoning will, in a great degree, apply to every other foreign state that trades to India, unshackled with an exclusive monopoly. The Americans are not only participating largely in the trade from this to Europe, but are also supplanting us in the carrying trade of India, which they are enabled to do from the cheap outfit and economical navigation of their ships, whose sailing charges, I am well informed, do not exceed one dollar per ton per month. This rising nation is unfettered with prohibitory regulations in their own country, and having all the advantages of trading in the Company's ports in India without restraint, will very soon become the principal carriers of the Indian seas, and in a great degree the medium of conveyance from India to Europe. In the accompanying statement, you will perceive that they can furnish tonnage for £5. 6*s.* $0\frac{5}{8}$*d.* per annum, of course, if their European cargo is charged with even nine months' freight, or £3. 19*s.* 6*d.*, or say in round numbers £4 ; they can sell all goods they export from hence to Europe £11 per ton cheaper than we can, independent of duties and a choice of markets ; which applied to the before-mentioned calculate for the port of Ostend, gives them an advantage beyond what I have stated, in favour of the Ostend trader, on 800 tons of sugar, in the sum of £4,800, or £27,617 more profit than the English merchant trading to the port of London.

It has been well observed, that no arguments can resist the logic of facts, nor will any barriers which policy may oppose in support of artificial advantages, resist the natural force of things which in commerce is profit ; and as our laws cannot bind the Americans, they will speedily supercede us, and appropriate to themselves the principal commercial advantages which our Asiatic empire has to offer.

The

Letter from a Bengal Planter.

The good effects of throwing open the trade of the Indian seas cannot have escaped your notice. The British ports in India have thereby acquired upwards of 200,000 tons of shipping, great part of which is equal, if not superior, in point of construction, materials and equipment, to any class of private merchant ships in the world.

Whilst the Company persevered in holding the monopoly of the Indian coasting trade, to the exclusion of private merchants, they were never benefited thereby. In liberating it to individuals, their settlements have risen to opulence by an increased and active commerce.

Their land revenues have been raised and sustained by opening new markets for the surplus produce of the husbandman and manufacturer, thereby exciting and extending internal industry. Their warlike operations have been facilitated in the ready transportation of troops and military stores from one settlement to another. And very frequently that most dreadful of all human calamities, famine, has been alleviated, by carrying the superabundance of Bengal to the less fertile regions of the Dekhan and Western India.

These, Sir, are a few of the many benefits which have arisen from abandoning the country trade to the spirited activity of private British merchants. From a fair analogy, I may venture to assert, that similar and increased benefits would result from an open trade between Great Britain and our Indian settlements. At all events, the experiment might be tried with little hazard to the Company's exclusive interest, and great advantage to this nation at large, on licensed ships; limiting their returns from hence to gruff goods and raw articles, such as cotton-wool, grain, sugar, drugs, &c., from which the Company cannot derive much, if any profit, at the rate they now pay for tonnage. In the present enlightened times, the sources of national prosperity, the true value and real interests of commerce, having been developed and rendered obvious to common observation, the necessity of the measure which I have here suggested must soon force its adoption in despite of every opposing obstacle. My sincere and respctful attachment to the interest of my country, prompts me to hope and wish that Great Britain and Bengal may, in some measure, owe the blessings of an unfettered commerce to the weight and influence of these representations, which appears to be the only means wanting to fill up the measure, and stamp the glory of the present Government.

As a practical merchant, I am well aware that no general reasoning upon subjects of commerce, revenue, or cultivation, ought to be admitted, unless supported by detailed proofs, I shall therefore proceed to lay before you at large the information that I have collected, respecting the more immediate purport of this address, *viz.* the culture, manufacture, and value of sugars in these provinces, which is contained in the accompanying papers, numbered 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12.

Nos. 1 and 2 contain an account of the method of cultivating sugar-cane, and the ordinary course of husbandry practised in the pergunnah of Renaty, in the province of Burdwan, together with an estimate of the expense of cultivating 60 begahs of land by hired labourers, and the produce thereof taken at the average prices of the pergunnah, and the present prices of the Calcutta market. From this statement, given to me by one of the principal native husbandmen of the pergunnah, it appears that the soil of that district yields a return equal to one ton seven hundred-weight one quarter and one pound avoirdupois of muscovado sugar per acre, and that it costs the cultivator £30. 12*s.* 3¼*d.*, or at the rate of 2*s.* 7¾*d.* per cwt.

No. 3 is the estimated average produce and expense of sugar plantations throughout the province of Burdwan, which gives about one ton one hundred-weight and seven pounds of muscovado sugar to the acre, costing the cultivator £4. 13*s.* 4½*d.*, or 4*s.* 5*d.* per cwt.

No. 4 states the method of raising sugar-cane in the vicinity of Calcutta, with an estimate of the average expense and produce per begah, which makes the latter equal to seventeen hundred-weight two quarters twenty-seven pounds of muscovado sugar per acre, at an expense per cwt. of 9*s.* 5¼*d.*, or £8. 7*s.* 4*d.* the acre. The whole of the sugar-cane produced in the village lands which belong

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belong to the collectorship of Calcutta, being sold and eaten in its raw state, cannot properly be admitted into any inquiry, the object of which is to ascertain the real cost of manufactured sugar in Bengal; but as I wish to make my information as general as possible, and to include the most unfavourable situations, as well as those which are advantageous to the produce of sugar, I have estimated, as before mentioned, the probable quantity of sugar which these lands might be supposed to yield per begah, were the produce thus disposed of, including also the method of making the juice into gour, as generally practised in the lower parts of Bengal.

Nos. 5 and 6 are estimates of the expense and produce of sugar plantations in Beerbhoom, both of which make the produce one ton two hundred-weight three quarters per acre; but the former gives the expense at the rate of £3. 7*s.* 10½*d.* per acre, the latter at £4. 7*s.* 2*d.*: the medium will be £3. 17*s.* 6¼*d.*, or about 3*s.* 4½*d.* per cwt.

No. 7, a similar estimate, together with the mode practised in cultivating sugar in Kishinagur, by which it appears that an acre in that district yields about sixteen hundred-weight twenty-seven pounds of muscovado sugar, the expense of which is £5. 2*s.* 4¾*d.*, or 6*s.* 4½*d.* per cwt.

No. 8 is a statement of the expense and produce of sugar plantations at Baugulpore, which gives the cost of sugar on that district at 3*s.* 11*d.* per cwt.; but not knowing the size of the begah on which the estimate is formed, I cannot reduce the produce to English measurement.

No. 9, an estimate of ditto for Purnea, making the produce per acre nine hundred-weight three quarters twelve pounds, and expense of cultivation £2. 4*s.* 9¼*d.*, or about 4*s.* 6½*d.* per cwt.

No. 10 is a detailed description of the practice of husbandry which prevails at Rungpore in the management of sugar plantation, together with an account of the method of boiling and refining the sugars that are sold at Goragaut, one of the most considerable markets for that commodity in Bengal; annexed to which is an estimate of the supposed expense and produce of an acre were it converted into muscovado sugar, which makes the former £4. 15*s.* 9*d.*, and the latter fourteen hundred-weight eleven pounds, equal to 6*s.* 9*d.* per cwt.

Nos. 11 and 12 are accounts of the exact produce of specified quantities of various kinds of jaggery and molasses distilled into rum, as also the result of five distinct experiments on different sorts of jaggery made into clayed sugar, together with the methods used in distilling rum and refining sugar, at the manufactory of Atchipore.

In the foregoing statements I have reduced the produce to that denomination of sugars known by the name of muscovado, to compare with facility the capacity of this country with the West-Indian islands, in the production of that commodity; and I have estimated the proportion of muscovado sugar obtainable from gour or jaggery, generally at one-half. Where the gour is of superior quality, or that species called shaar, I have reckoned it to produce somewhat more, as in No. 4; and if an inferior quality, I have estimated it at less than a moiety, as in Nos. 8 and 9. The species of sugar called doolooah and shucker, the former obtained by draining the gour of its molasses in baskets, and the latter by expressing it through hempen bags, bear a near resemblance (particularly the doolooah) to muscovado sugar; yet they are not precisely the same, nor have I seen any sugar in this country that would exactly answer to that denomination.

I have been chiefly guided, in estimating the quantity of muscovado sugar obtainable from gour, by my experience of the proportion of clayed or refined sugar which, upon a medium, it usually yields, being in the first process somewhat more than one-fourth, or according to the result of the four last experiments, in No. 11 of the Appendix, 26 maunds 31 seers 12⅞ cks. for every 100 maunds. In England, I understand, muscovado sugar produces about one-half on the first process; hence gour, such as usually comes to this market, may be estimated to yield somewhat more than a moiety of its weight in muscovado

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covado sugar; but were it refined immediately as it is made, or the juice converted into muscovado sugars upon the spot, it would give a considerably larger proportion, for by No. 3 and 6 you will perceive that gour in Burdwan and Beerboom, when instantly refined, produces of clayed sugar nearly a third of its weight. The gour is apt to ferment if kept for the purpose of sending to a distant market, which destroys its grain, and prevents it from refining to advantage; it is likewise frequently adulterated by the intermediate merchants.

The expenses of cultivation and manufacture are invariably estimated upon a supposition that the work is performed by hired labourers, whereas it is mostly executed by the ryot's own family and dependents, and consequently costs less than hired labour; whether we admit the superior care and industry of a proprietor compared with a hireling, or that a great part of the business may be performed at periods when the ryot's family would otherwise be idle.

I have likewise always inclined to the most unfavourable supposition, in all matters of doubt, or where my information failed in an exact specification, by increasing the expense and lessening the produce.

The calculations are reduced to English weights, measures, and coins, for the more ready comprehension of the relative proportions which the expense and produce bear to other countries, and I have reckoned the sicca rupee at the exchange of the day, or 2*s.* 4*d.*, whereas its intrinsic value, compared with sterling silver, is little more than 2*s.* 0½*d.*, for 100 sicca rupees produce only 204 shillings 7.159 dlpts. of sterling silver. Upon the whole, I think a mean of these calculations, excepting No. 2, the estimate for Deca (which so much exceeds the other in produce, that it may perhaps be thought a favourable spot partially selected), and No. 4. Punchaun-gong, which fall short, and where no gour at present is made, may be safely admitted as an average statement of the produce and expense of sugar per acre in these provinces. In my own mind, I am convinced it is an unfavourable one; the result will be as follows:

A STATEMENT

A STATEMENT, shewing the Expense of cultivating Sugar Land in Bengal by hired Labour, together with the Cost and Amount produced in ten different Districts, in the Year 1793; taken from detailed Accounts of reputable native Farmers.

Name of the District.	Rent per Begah.	Expense of Cultivation per Begah, including Rent.	Produce per Begah, in Mds. 80 sicca-weight.	Price upon the Spot.	Value.	Profit per Begah to Cultivator.	Produce per Acre.	Expense per Acre.	Cost per Cwt.
	S.Rs. A. P.	S.Rs. A. P.	Mds. Srs. Cks.	S.Rs. A. P.	S.Rs. A. P.	S.Rs. A. P.	Tons. Cwts. Qrs. lbs.	£ s. d.	£ s. d.
No. 2. Deca	4 0 0	20 0 0	30 0 0	1 8 0	45 0 0	30 8 0	1 7 1 1	3 12 $3\frac{1}{2}$	0 2 $7\frac{3}{4}$
3. Burdwan	3 0 0	18 0 0	19 0 0	1 12 0	33 4 0	15 4 0	1 1 0 7	4 13 $4\frac{1}{2}$	0 4 5
4. Punchaun Gong	3 0 0	32 3 11	11 0 0	3 8 0	38 8 0	6 4 1	0 17 2 27	8 7 4	0 9 $5\frac{1}{4}$
5. Beerboom	4 0 0	18 8 0	20 20 12	1 15 10	28 0 0	9 8 0	1 2 3 0	3 7 $10\frac{1}{2}$	0 2 $11\frac{3}{4}$
6. Ditto	3 0 0	20 6 0	20 20 12	1 15 10	28 0 0	7 10 0	1 2 3 0	4 7 2	0 3 $9\frac{1}{2}$
7. Kishinagur	2 0 0	20 2 8	14 20 0	2 0 0	29 0 0	8 13 4	0 16 0 7	5 2 $4\frac{3}{4}$	0 6 $4\frac{1}{2}$
8. Baugulpore	3 0 0	16 7 2	17 20 0	1 2 $7\frac{2}{7}$	20 0 0	3 8 9			0 4 $7\frac{3}{4}$
(Not including Expense and Produce per Acre.)									
No. 9. Purnea	1 8 0	13 12 2	15 0 0	1 0 0	15 0 0	1 3 10	0 9 3 12	2 4 $9\frac{1}{4}$	0 4 $6\frac{1}{2}$
10. Rungpore	3 8 0	16 12 0	12 30 0	1 7 6	18 12 0	2 0 0	0 14 0 11	4 15 9	0 6 $9\frac{1}{2}$
Total of the Estimates, except the Produce and Expense per Acre of Baugulpore	27 0 0	176 3 11	160 31 8	16 5 $5\frac{3}{7}$	255 8 0	84 12 0	7 11 2 9	36 10 $11\frac{1}{4}$	2 5 $7\frac{3}{4}$
Medium of Do. with the above Exception	3 0 0	19 9 4	17 34 10	1 12 $11\frac{3}{7}$	28 6 2	9 6 8	0 18 3 22	4 11 $4\frac{1}{2}$	0 5 $0\frac{5}{8}$
Medium of the Estimates, exclusive of No. 2. Deca, and No. 4. Punchaung Gong	2 13 $8\frac{1}{7}$	17 11 5	17 4 8	1 9 11	24 9 $1\frac{1}{7}$	6 13 $8\frac{2}{7}$	0 17 3 $1\frac{1}{2}$	4 1 $10\frac{1}{2}$	0 4 $9\frac{1}{2}$

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Having some years ago hazarded anopinion, that Bengal, with an open trade and proper encouragement, could not only supply the European market with sugars cheaper than the West-Indies can possibly do,* but also undersell the West-Indian cultivator in his own island, I then incurred the ridicule of a visionary speculist. Time, however, which proves the truth or fallacy of human opinions, is about to embody this with the substantial form of proof; and I hope to be able in the present address, to demonstrate, by an exact and fair comparison of the expense and produce of sugar plantations in Bengal with those of the West-Indies, the validity of my assertion. But I am sorry to observe, that my inquiries into the actual medium expense and produce of West-Indian sugar plantations, have not been so successful, as to ascertain this point so correctly as I could have wished, for no two accounts that I have met with agree in every particular. I, however, trust that I shall be able to produce sufficient data, on which to establish a pretty good general conclusion.

In a pamphlet lately published, entitled, "Thoughts on the Present High Price of Sugars, by an Old Trader"(who roundly asserts the futility of attempting an importation from the East-Indies), it is stated, that to clear and settle a sugar plantation in Jamaica, which will produce 100 hogsheads of 1,600 lbs. weight of sugar per annum, would require an advance of at least £20,000 for clearing the land, erection of works, mills, &c. and the purchase of cattle and utensils of manufacture and husbandry.

Were the principal sum of £20,000, to return only the island interest, it would amount to £1,200 per annum, or for each hogshead annually	£12	0	0
The labour of two negroes are stated as necessary for the cultivation and manufacture of every hogshead of sugar, who are now asserted to be worth £100 each; annual interest of course	12	0	0
Fifteen years are given as the average duration of a negroe's life; consequently the annual decrements are, communibus annis, 6⅔ per cent on £200	13	6	8
	£37	6	8

I suppose Jamaica currency, or £140 for £100 sterling is meant, which makes the cost of 1,600 lbs. or a hogshead of 14 cwt. 1 qr. 4 lbs. equal to sterling, £26. 13*s.* 4*d.* or £1. 17*s* 4*d.* per cwt. The molasses, scum, and dregs of the sugar, when distilled into rum, are reckoned to pay the contingent charges of the estate, such as salaries to the overseers, clerks, distillers, and other necessary white men, annual quit-rents, renewal of cattle and implements of husbandry and manufacture, repairs of building, cloathing and provisions for slaves, &c.

The Old Trader proves satisfactorily that the culture of sugars depending on the labour of negroes, the price of the former must always be commensurate with the price of the latter; and that the value of slaves having progressively risen from £35 Jamaica currency, the price of seasoned negroes in the year 1748, to £100, their estimated value in 1791, the price of sugars ought to rise in the same proportion; hence sugars at Kingston being in the year 1748, £22. 8*s.* currency the hogshead, they ought now to be £64 currency, or sterling £45. 14*s.* 3*d.* for the hogshead of 1,600 lbs., equal to sterling £3. 4*s.* per cwt.

To prove the futility of importing sugar from the East-Indies into England, the Old Trader says, that if the East-India Company were to employ thirty ships of 1,000 tons annually, they could only bring home 24,000 hogsheads of sugar, which would not suffice to sweeten the tea of the summer labourers in hay-harvest. He forgets that the Company, or individuals, could hire what tonnage they want for the carriage of sugar from the East-Indies, as easily as the planters do for the transportation of sugars from the West-Indies. No further reply seems necessary

* This opinion was neither new nor singular. See Strictures, p. 20 to the same point; Directors' Report on Sugar; Law's Resources, &c.

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necessary to this hoary advocate for slavery, whose zeal in favour of that detestable traffic, (without which he insists the West-Indies must be ruined), could lead him seriously to give such a reason, as an unanswerable argument against the possibility of an increased importation into England of sugar from this country.

Prefixed to Beckford's descriptive account of Jamaica, the valuation of sugar estates on that island are stated, from the authority of the Jamaica Almanack, as follows:

Cane land, the canes upon it valued separately, at per acre	£22
Plants	22
Cane land in ratoons and young plants	15
Pasture land	8
Wood land	4
Provisions	14
Negroes	57
Mules	22
Steers	10
Breeding cattle, &c.	5
Works, water, carts, &c. from 7 to	£10,000

From the above estimate a calculation of the annual expense of cultivation might be formed, if the proportion of pasture, wood, and provision lands necessary to an acre of sugar-canes, or the produce thereof in plants and ratoons had been stated; but as that is not done, I shall assume an acre of the whole for every acre of sugar-cane, which, from Mr. Wedderburn's evidence before the House of Commons, on the slave trade, will appear much less than the real proportion.

I am equally at a loss with respect to the mules, steers, and breeding cattle, and must take them at the sum specified, or an acre of each, and the produce of the Old Trader's estimation of half a hogshead, or 800 lbs. of muscovado sugar for every slave and acre. On these suppositions, and that half a plantation is in plants and half in ratoons, the expense and produce will be as follow:

Cane land in plants, per acre	£44			
Ditto in rattoons	15			
		— 59		
Average		£29	10	0
One acre pasture land	£8			
One ditto wood ditto	4			
One ditto provision ditto	14			
		— 26		
One acre of the whole to an acre of sugar-caneis		8	13	4
Mules per acre		22	0	0
Steers		10	0	0
Breeding cattle		5	0	0
Works, £10,000 equal to make 100 hhds. of sugar, the produce of 200 acres, being per acre		50	0	0
Negroes		57	0	0
		£182	3	4
Interest on the above at 6 per cent.		10	18	7
Value of a negro's life, 6 and 2-3 ds. per cent. on £57		3	16	0
		£14	14	7

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£ 14. 14*s.* 7*d.* being therefore the annual expense of one acre, and the produce in general on cane-pieces being stated by the Old Trader at half a hogshead, or 800 lbs. of muscovado sugar, gives the cost per cwt. at £2. 1*s.* 2¾*d.* sterling. From the before-mentioned authority of the Jamaica Almanack, the rent of a sugar estate is estimated at 10*d.* sterling per day for each negro, the lessee to keep the works, &c. in repair, and replace such of the negroes as die.

Estimating the expense of raising sugar by this standard, and allowing with the Old Trader the labour of two negroes, valuing them at £60 sterling each, necessary to the culture of each hogshead of sugar, and the decrements at 6⅔ per cent. per annum, every cwt. of sugar will cost the cultivator, if a lessee, £2. 10*s.* 11¾*d.*

Mr. Long, in his history of Jamaica, states the number of negroes to hogsheads, upon an average of the whole island, to be 166½ to 100 hogsheads, or about 1⅔ to each hogshead; and Mr. Hebbert, in his evidence before the House of Commons on the slave trade, estimates the annual mortality of negroes at five per cent.

Valuing the negro's hire, as before, at tenpence per day, and the annual labour of one and two-thirds negroes as necessary to produce a hogshead of sugar, with the decrements at five per cent. on the low valuation of £60 sterling per negro, each hogshead of sugar costs on this principle £30. 6*s.* 11½*d.* which at twelve hundred-weight per hogshead, the average weight at the King's beam at Kingston, makes the expense sterling £2. 10*s.* 6¾*d.* per hundred-weight, or if the hogshead is estimated at fifteen hundred-weight, the expense will be £2. 0*s.* 5¼*d.* sterling per hundred-weight.

In the minutes of evidence on the slave trade, Mr. Wedderburn gives the proportion of land negroes, and produce of eleven estates in the island of Jamaica that were under his management, the aggregate of which is 17,100 acres, 2,231 negroes, producing annually 1,915 hogsheads of sugar and 1,085 puncheons of rum, which makes the mean proportion of negroes to a hogshead of sugar about 1⅙, equal to about 425⅚ days' labour; valuing this labour at tenpence per diem, and the decrements at five per cent., each hogshead of sugar costs sterling £21. 4*s.* 10½*d.*, being £1. 15*s.* 5*d.* per hundred-weight, if the hogshead of twelve hundred-weight is meant, or £1. 8*s.* 4*d.* if the hogshead of fifteen hundred-weight is intended.

A gentleman now in Calcutta, who resided many years in Jamaica, says, he sold four crops of sugar, deliverable in the curing-houses, in the years 1778, 1779, 1781 and 1782, at 40*s.* currency per cwt., equal to about 28*s.* 7*d.* sterling. At that period the value of seasoned slaves was £40 sterling; in 1791 they were estimated at £60. Hence sugars that sold in Jamaica in 1782 at 28*s.* 7*d.* sterling per cwt. ought in 1791 to sell for 42*s.* 10½*d.* per cwt.

I should, perhaps, fatigue you, were I to pursue the subject by further calculations, founded upon authorities that vary so much from each other; and shall therefore briefly notice such of the evidences given on the slave trade, as I have observed go towards elucidating the point in question, and average them in one calculation.

Mr. Franklin says, planters in the ceded islands are satisfied if 200 negroes cultivate as much land as yields them from 180 to 200 casks of sugar of twelve hundred-weight.

Sir Ashton Warner Byam, of Granada, thinks three to four per cent. the annual average loss of slaves by deaths. The maintenance of his slaves in St. Vincent's, man, woman, or child, above twelve years old, costs him seven or eight pounds sterling per annum, exclusive of provision grounds; one shilling and nine-pence halfpenny to be the prevailing daily hire of a slave; much more is frequently given.

Mr. Baillie, of Granada, made annually 240 hogsheads from 350 acres of canes.

Mr. Douglas, of St. Kitts, on 250 acres employed 215 slaves.

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Mr. Kirby, of Antigua, on one estate of 120 acres, employed 152 negroes; on another of 222 acres, only 137 negroes.

Mr. Athill, of Antigua, had on one estate of 200 acres of canes 220 slaves; on another of 100 acres, 110 to 115 slaves; the amount of expense of feeding them from five to eight pounds sterling annually; task work costs £7. 10s. per acre.

Mr. Willock, also of Antigua, says, the produce depends on the number of negroes. On one estate, he formerly made with 120 slaves only, seventy hogsheads; the same estate, with 350 slaves, now makes 150 hogsheads; another estate, 250 acres in canes, 230 negroes and thirty mules, makes 150 hogsheads.

Mr. Campbell, of Granada, holds it impossible to state accurately the proportion of negroes to acres or hogsheads, some lands requiring more, some less, although more fertile. Instances three estates of his own, on one of which 320 acres are cultivated by 173 slaves, and produces communibus annis 250 to 300 hogsheads of sugar. Another of 450 acres and 180 negroes, makes from 180 to 200 hogsheads. A third estate, 400 acres and 206 negroes, makes 180 to 200 hogsheads. An estate of 300 or 400 acres, with slaves and stock, is worth from £30,000 to £40,000.

From canes cut in March, April, and May, 1,500 gallons of good juice will make a hogshead of sugar; if cut in January, it will require from 2,500 to 3,000 gallons.

Three per cent. was his loss of slaves, mostly able, which occasioned an additional loss of labour of two per cent. and an increase of labour two per cent. more. Mr. John Collie, of Granada, makes the annual loss of slaves by deaths, six per cent. per annum.

Assuming the average of these statements as an estimate of the proportion of labour and land to produce, for the West-Indian islands in general, excluding Jamaica, it will be as follows:

		Acres.	Slaves.	Hhds.
———	Franklin	—	200	190 to 200 of 12 cwt.
Granada,	Baillie	350	—	240
Ditto,	Campbell	320	173	250
Ditto,	ditto	450	180	180
Ditto,	ditto	460	206	180
St. Kitts,	Douglas	250	215	—
Ditto,	Kirby	120	152	—
Ditto,	ditto	222	137	—
Antigua,	Athell	200	220	—
Ditto,	ditto	100	110	—
Ditto,	Willock	—	350	150
Ditto,	ditto	250	230	150

A mean of the whole is, that about $1\frac{3}{4}$ of an acre of canes produce a hogshead of sugar, requiring the labour of $1\frac{1}{4}$ negroes, or 456 days for one slave, which valued at tenpence per day, and the decrements at five per cent. on £60, present value of a negro, each hogshead of sugar costs the planter £23. 13s. sterling; if a hogshead of 15 cwt. £1. 11s. $6\frac{1}{2}$d.; if a hogshead of 12 cwt. £1. 19s. 5d. per cwt.; medium, £1. 15s. $5\frac{3}{4}$d. allowing as before the rum to pay the contingent charges of the estate.

Proceeding in the same way with the different calculations for Jamaica, we have the following result:

	£		
Old Trader (first statement) per cwt.	£ 1	17	$4\frac{1}{2}$
Ditto, present supposed expense on a calculation from Jamaica Almanack, per cwt.	2	1	$2\frac{3}{4}$
Charging negroes' wages, 10d. per day, and allowing the labour of two for a hogshead of sugar, per cwt.	2	10	$11\frac{3}{4}$
Same wages, allowing the labour of 1 and 2-3ds agreeably to Mr. Long, and decrements 5 per cent. as given by Mr. Hebbert for the hogshead of 12 cwt.	2	10	$6\frac{1}{4}$
Carried forward,	£ 9	0	$1\frac{3}{4}$

Brought forward	£9	0	$1\frac{3}{4}$
For the hogshead of 15 cwt.	2	0	$5\frac{1}{4}$
Same wages, and allowing upon Mr. Wedderburn's evidence, the labour $1\frac{1}{6}$ negroes for the production of a hogshead of 12 cwt.	1	15	5
For a hogshead of 15 cwt.	1	8	4
Sum of seven calculations.....	£14	4	4
Medium of Jamaica	2	0	$7\frac{3}{8}$
Medium of the West-Indies	1	15	$5\frac{5}{8}$
	£3	16	$1\frac{1}{8}$
General mean	£1	18	$0\frac{1}{2}$

Some accounts that I have seen give the average produce of the West-Indies at 15 cwt. of muscovado sugar per acre, being twice as much as the Old Trader allows; and a gentleman now here, says he has known some of the best cane lands in Jamaica produce from one and a half to two tons per acre; but on comparing all that I have heard and read upon the subject, it would appear, that under the present state of things, every cwt. of sugar costs the West-India planter at least 40*s.* before it is delivered from the curing-house.

I have, however, so much to spare in comparing the cost of raising sugar in Bengal with the expense at which it is produced in the West-Indies, that I will allow it may now be cultivated and manufactured at 30*s.* per cwt., and prove that the same species of sugar could be exported from hence, and landed in the West-Indies at 12*s.* $9\frac{1}{2}d.$ per cwt., being little more than 2-5ths of that price, and not one-third of what I conceive to be the present actual expense to the West Indian planter. By No. 2 of the Appendix, you, sir, will perceive that

muscovado sugar costs the ryott at Deca, in Burdwan, per cwt.	0	2*s.*	$7\frac{3}{4}d.$
I allow for expense of transportation to Calcutta, package in chests, shipping charges, and Calcutta duties	0	1	$4\frac{1}{4}$
	0	4	0
Insurance and interest of money, 12 months, 10 per cent.....	0	0	$4\frac{3}{4}$
Wastage, 10 per cent.	0	0	$4\frac{3}{4}$
Freight, payable on delivery, £8 per ton	0	8	0
	£0	12	$9\frac{1}{2}$

Being the whole expense per cwt. at which a cultivator of sugar at Deca in Burdwan could land it in the West-Indies. Taking the average cost of cultivating and manufacturing muscovado sugar throughout Bengal (exclusive of No. 2 Deca and No. 4 Punchaun Gong) being 4*s.* $9\frac{1}{2}d.$ per cwt. and with the above allowances for freight, charges of merchandize, &c. it could be landed in Jamaica at 15*s.* $4\frac{1}{4}d.$, being 25*s.* $3\frac{1}{8}d.$ per cwt. less than it actually costs to produce similar sugars upon that island.

But should all these calculations of the actual first cost be objected to as vague and fallacious, my argument is equally strong and tenable by taking the common market price of sugars in both countries; nay, I will even take the sale prices of Jamaica during the years 1778, 1779, 1781, and 1782, before the great rise of price in Europe, when it was sold in the planters' curing-houses, without incurring any expense beyond the charges of cultivation and manufacture, at 40*s.* currency, or 28*s.* 7*d.* sterling per cwt., and oppose to them the average market prices of Calcutta, after the commodity has paid the intermediate profit of the interior merchants, who purchase from the cultivator, and sell to the consumer or exporter at this market, which are upon an average full 90 per cent. above the natural cost of sugars to the country.

The medium price of good gour at Calcutta, for ten years past, has been about two sicca rupees the bazaar maund, which, allowing it to yield a proportion

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portion of half its weight in muscovado sugar, may be landed in the West-Indies at 19*s.* 11*d.* per cwt., as will appear by the following statement.

One maund or 82 lb. of gour at 2 sicca rupees, is	4*s.*	8*d.*
Deduct value of half a maund of molasses drained therefrom, 8 annas	1	2
For half a maund, or 41 lb.	3	6
Being, per cwt.	9	6¾
Insurance, shipping charges, and interest of money, 15 per cent	1	5
Wastage, 10 per cent	0	11¼
Freight	8	0
	19	11

Which deducted from 28*s.* 7*d.* would give a profit to an exporter of sugars to Jamaica, from Calcutta, under the disadvantages, before stated, of taking the highest price of Bengal and the lowest price of Jamaica in the same period of time, of 43¼ per cent.

I hope I have now urged enough, to produce the same conviction in every unprejudiced mind that has long been impressed on my own, the practicability of supplying the West-Indies from hence with their grand staple of sugar at half the price it costs the planter to raise it in those islands; or at least one-third less than the lowest actual expense at which it can be cultivated and manufactured there by slaves, under the present state of things. By proving this, I think no possible objection can be urged to the ability of Bengal to supply Europe with sugar cheaper than it can be furnished from the West-Indies, so far as the surplus produce extends beyond the home consumption; and I think the quantum of this surplus depends upon the will of Government.

To increase the cultivation of sugar-cane in these provinces very little seems wanting, beyond freedom of markets and the common encouragement due from every government to its subjects. Since the wise abolition of inland customs and the seyer duties, I believe Bengal may be reckoned one of the freest countries in the world from fiscal impositions, and all the train of vexatious evils attendant thereon. The liberal policy which induced Government to suffer a diminution of revenue, when its exaction was incompatible with the increasing prosperity of the country, should operate with equal force in freeing commerce from the shackles which impede its extension. The increase of cultivation depends upon a quick sale for the surplus produce of the soil; and this can only be obtained in any extent, by allowing that surplus to find the best and readiest markets.

The Company's tonnage does not furnish the means of conveyance to those markets, either in quantity equal to the demand, or at a fair price. Surely then, as sovereigns, the Company are monopolizing against their own interest; and losing the positive advantages of an increasing land revenue, for the sake of the precarious and doubtful profits of an invidious monopoly. An increased land revenue arising from extended cultivation, raises the fee simple of their estate in these provinces in perpetuity, equal to the value of the yearly increment; whereas, by limiting the produce of the country to what they can purchase and export themselves only, to prevent rivalry or competition at the markets to which they carry it, their profits as monopolists increase, it is true, but only in proportion as this revenue is diminished. Hence their interest as sovereigns is incompatible with their interest as monopolists, in all the articles of traffic from which a revenue is drawn. †

As no part of the policy of Lord Cornwallis's government will admit of the supposition that cultivation is to be restricted, or the prosperity of the country limited merely to favour the Company's home exports, it follows, that all the surplus sugars of Bengal, beyond what their tonnage carries to England and that which is necessary for home trade and consumption, must be forced away in foreign or contraband ships. Under the present system, then, to extend the cultivation

* The writer has omitted the charges of making this gour into sugar; for which, and the process after the country and improved method at Atchipore, see statements. The 90 per cent. profit is taken on the gour.

† See Wealth of Nations, Robertson's Disquisition on India, and Directors' Report, already referred to, in confirmation of what is here advanced.

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tivation of sugar here, much beyond what is now produced, is to raise an article for the support of smuggling; and which must also inevitably increase the trade and navigation of our rivals in commerce, both in America and Europe, whilst our ports in India continue open for the free reception of ships from every quarter of the globe except Great Britain!

The present restrictive laws for guarding the Company's exclusive trade, present to us an extraordinary instance of political inconsistency. In the West, Great Britain guards, with the utmost jealousy, the trade of her colonies from any participation with foreign states. In the East, she with equal vigilance excludes her own subjects from any share of the advantages of that commerce which her possessions afford to every other nation. To men of plain understandings, who, like myself, view the question in a commercial light only, it should seem, that a system of policy, which is calculated for the promotion of national interest in the Western hemisphere, ought to be equally applicable to the Eastern, provided it is founded on just and wise principles; and the uniform strictness with which the navigation laws are administered, leave us little doubt that they have always been considered as the grand support of our maritime strength, and the protection of our national commerce.

I fear you will think I am again digressing from my subject, and stepping beyond the line of my profession, in offering observations on points of so much delicacy and importance; but feeling most sensibly, with many others of my fellow-subjects in my situation, the evils I deplore, I hope I shall stand excused in lamenting (if it is without remedy) the pressure of those restrictive laws, which fetter the exertions of the British merchant in the East, and thereby grant an indirect monopoly to foreigners by his exclusion; or force him, by the temptation of illicit profits, to risk his capital under a foreign flag, and break the invidious proscription, in order to participate in those advantages which are to him alone denied.

I have much to apologize for, in trespassing so long on your time and patience; and nothing but my conception of the importance of the subject, and a conviction that every representation, however inadequate, which proceeds from honest intentions, would meet with a candid reception, could have induced me to deviate so far from the limits which I proposed to myself, when I commenced this address. I shall not however detain you much longer; but will hasten to conclude this long and desultory letter, with a few brief observations on the present state of the cultivation and manufacture of sugars here, and the advantages which Bengal has over most countries, particularly her western rivals, in the produce of this commodity, and its facility of increasing the same, together with the benefits that would arise, both to Great Britain and Bengal, from such increase.

In Bengal no expensive works nor complicated machines are required, consequently little or no capital is requisite beyond the support of the cultivator. The mill * which grinds the sugar-cane, and the earthen pots which boil the juice, are every where made upon the spot, at an expense too trifling to be named. The former costs a rupee, the latter an anna a piece, nine of which suffice to boil the cane juice which one mill yields.

The plough and harrow, equally cheap and simple in their construction, do not together cost in general above a rupee, a hoe eight annas, bullocks four to eight rupees a piece, plants two rupees per begah, which with a shed and the ryott's hut, about four rupees, include all the requisites and expense of a sugar plantation in Bengal.

Nothing seems to oppose an immediate and great increase of sugars here, but the disinclination of the ryotts to speculate upon future contingencies, which they cannot comprehend, and their individual poverty, which forbids them to undertake what they cannot accomplish.

These obstacles, I conceive, Government might remove, with advantage to the prosperity of the country, and to the increase of the land revenue, by

* I mean the mill in general use throughout the lower parts of Bengal, which consists of two wooden rollers, fixed horizontally in a frame, and turned by levers in opposite directions. The cattle mill is used in the upper parts of Bengal and Bahar.

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making advances, in the nature of tacavy, to every ryott inclined to undertake the cultivation of sugar-cane; the advances to be proportioned to the extent of each ryott's ability to cultivate, which would be ascertained by the number of his family and dependents, or the facility with which labour can be hired in the district; and to be repaid at his option, either in money or produce, at the market-price of the day, after the crop is manufactured, with interest at the rate of eight per cent. per annum.* Such a measure would not be attended with more risk than the advances made by the commercial agents of the Company for the provision of the investment; and, independently of every other advantage, would, so far as its influence extended, relieve the most useful class of the Company's subjects from the excessive impositions to which they are liable from their native creditors, who exact returns for loans made on the crops, which are almost incredible.

A mahagen, or shroff, advancing upon a sugar crop, receives in most parts of the country an interest of one anna monthly for every rupee advanced, which is equal to 75 per cent. per annum, and never less than six pice, or $87\frac{1}{2}$ per cent. A renter unable to make good his kists, is frequently under the necessity of borrowing at the enormous interest of one per cent. per diem, which rate is known generally by the term of chootah, and properly so called, although no odium attaches itself to the lender.

You will perceive by the appendix, that the culture of sugar is more beneficial, both to the landlord and the tenant, than any other production of the soil. Compared with other articles of cultivation, it yields upon a medium four times the profit, considered only with respect to the husbandman and his landlord; but when to this are added the profits and employment which it affords, as an article of commerce, to the various manufacturers and artificers inland, and foreign merchants, boatmen and seamen, before it reaches the consumer in Europe, it assumes a beneficial importance to mankind which can scarcely be estimated.

To proceed as I have hitherto done, and illustrate general assertion by analyzing the proofs on which it is grounded, I will suppose that Government determine to extend the cultivation of sugar-cane in Bengal by means of advances, and in consequence of such encouragement, an increase of sugar plantations is produced to the amount of 100,000 acres, beyond what is at present cultivated; that this extension brings so much waste land into cultivation; and that the necessary advances to support the cultivator and defray the expense of cultivation and manufacture, are made until the crop is ready for market, even to the full extent requisite, receiving the rent of the land, together with the advances from the produce.

By the average of my statements of the expense and produce of sugar plantations (exclusive of Nos 2 and 4, which I omit for reasons before given), it appears that the charges for cultivating a begah of sugar-canes, and manufacturing the produce, exclusive of rent, are S.Rs. 14 13 $8\frac{4}{7}$. Hence 100,000 acres, or 300,000 begahs, would require the sum of S.Rs. 44,57,142. † This sum being advanced gradually, would return to Government in about six months. On a medium of the whole advance, it would yield to the cultivators a profit of S.Rs. 6 13 $8\frac{3}{7}$ per begah, being on 300,000 begahs, sicca rupees 20,56,919; and reckoning the labour of cultivating and manufacturing the produce of a begah into gour at 140 days for one man, would employ and maintain annually 115,070 husbandmen, and thereby increase the population of the country to an equal extent; for the human species will ever multiply in proportion to the means of existence. The landlords, or Government, would gain in addition of rent or revenue, at the rate of S.Rs. 2 13 8 per begah on the increased cultivation, which for 300,000 begahs, is sicca rupees 857,142; for the ryott might well afford to pay the full rent, even for waste lands, under the aid of advances made at an interest of only one-ninth per annum of the present rate which he now pays for loans.

The

* For a plan on the same principles, but not requiring advances, see Strictures on East-India Commerce, ch. 11, published in 1792. Debret.

† The fractions of a rupee are omitted in all the large calculations.

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The produce of 300,000 begahs would, on a general average of maunds 17 4 8 per begah, be 51,33,750 maunds of gour, worth upon a medium on the spot S.Rs. 1 9 11 per maund, or S.Rs. 83,15,605 7 6, and when made into muscovado sugar, would produce 94,118 tons, 15 cwt., valued at 10*s.* per cwt., in Calcutta is sterling ..... £ 941,187 10

Add 25,66,875 maunds of molasses, valued in Calcutta at two sicca rupees per maund 299,468 15

£1,240,656 5

This sugar shipped for Europe would require 235 ships of about 400 tons burthen; and reckoning the crew at 25 men for each ship, would create employment for 5,865 British seamen.

At the present price of West-India muscovado sugar, it would sell in England for 80*s.* per cwt., which, allowing 10 per cent. wastage, is £6,776,550 0

To which add the molasses 299,468 15

And we have no less than the sum of £7,076,018 15

realized in two years from an extended cultivation of 100,000 acres, by means of a loan not exceeding £500,000, which is repaid in six months with interest, giving a land revenue or rental to Bengal, of ..... S.Rs. 8,57,142

To which add Calcutta customs 4 per cent. on 5,133,750 maunds of gour, valued at 2 sicca rupees per maund, is 4,10,700

S.Rs. 12,67,842

or sterling £147,914. 19*s.* 4*d.* per annum. A revenue to England of £1,270,603. 2*s.* 6*d.* supposing them admitted on the same terms as those from the West-Indies, being 15*s.* per cwt., and allowing 10 per cent. wastage, a general profit to Bengal of £1,240,656. 5*s.*, being the average value of the sugars in the Calcutta market. To the revenue, merchants, seamen, and artificers of England, a yearly accession of £5,835,362. 10*s.*, being the difference between the Calcutta and English prices, or whatever the amount of that difference may be. But as the profits arising from the present high price of sugars would be much too great for any extensive trade, and as the natural effect of so large an exportation from hence would be a considerable reduction of that price, I will take the selling price in England at 40*s.* per cwt.,* confident as I am, that Bengal can supply England with sugars at half the price which she is now obliged to pay for it to her West-Indian colonies. The gross sales, deducting wastage, would then be £3,388,275, and the difference between the purchases and sales, deducting English customs, is £1,176,484. 7*s.* 6*d.* for the profit of the merchant, and the payment of freight, insurance, and charges on the transportation and sale.

Were the consequent reduction of the prices of sugars in England, arising from this extensive supply, equal to the abatement I have supposed, of one-half its present value, the nation would be benefited perhaps in a greater degree than if the profits on the trade were equal to the first calculation; for instead of going into the pockets of the merchants, it would ease the people of England of a tax now levied upon them, in all this difference of price upon the whole of the sugars which they consume; and the annual consumption being estimated at two hundred millions of pounds weight per annum, an abatement of 40*s.* per cwt. would be equal to a reduction of taxes to the amount of sterling £3,571,428. 11*s.* 4*d.*

The increased value of sugars in England certainly operates as a tax upon the community; and a tax of the worst species, for being levied upon a consumable commodity of general use amongst all ranks of life, it neither adds to the national capital, nor its revenue.

The Company are likewise particularly interested in lowering the price of sugars, as affecting their China trade by lessening the consumption of tea; for the increased value of sugars must counteract the effects of the Commutation Act,

* The medium price at the Company's sale in September 1793, was 51*s.* 9*d.*

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Act, in proportion to the excess of price on all that is used for the purpose of sweetening tea.

No consideration, in my humble opinion, for West-Indian property, ought to crush the progress of improvement in this country, and fetter the commerce of our own. Such a policy is unjust to Bengal; it is injurious to England; and for what are these restrictions enforced? for the conservation of slavery! To preserve and perpetuate the returns of West-Indian estates to a few monied men in England, is it right that they should have a national monopoly for the produce; and that the welfare and happiness of millions should be immolated at the shrine of a system founded on principles the most abhorrent to humanity? If the West-Indies cannot support their sugar plantations under a competition with a country so distant as Bengal, they will soon become too burthensome to be maintained much longer: for leaving the expense of protection which they cost the nation out of the question, the excessive prices to which their produce has risen must speedily work its own remedy. *

The difference between the expense of cultivating sugar in Bengal and the West-Indies, as already stated, appears so great, that it may create doubts with respect to the fidelity of the statements from which the comparison has now been drawn. You will, however, I trust, find my estimates of the produce and expense of cultivation and manufacture in Bengal confirmed by the reports of the commercial agents of the Company, in conformity to the orders which have been given for collecting them; and with respect to the West-Indies, I have submitted the data from whence my conclusions are drawn. I made use of the best materials I could find, and with the strongest wishes to avoid errors and guard against misrepresentation. Much has been said against the natives of this country, and their general imbecility and inferior capacity, compared with the bulk of the inhabitants of other countries. Under this assumption (for I deny the fact), the advocates for the West-Indian monopoly shelter themselves, by ridiculing the idea of any great increase of sugar being produced here for many years to come, and not then without the aid of large capitals, extensive works, and expensive machinery.

The same idea seems to have been hastily adopted, and to have prevailed too generally amongst Europeans in this country, which has been the cause of ruin to many individuals; for without considering that the price of labour is lower, and the interest of money higher than in most countries that we are acquainted with, those who have attempted sugar plantations here have proceeded as if the reverse were the case; and, in imitation of the West-Indian planters, have expended large sums at their first outset, in buildings, machinery, and implements of husbandry, the annual interest of which could never be returned by any saving to arise from diminishing labour, but on the contrary has constantly engulphed all the profit, and ended in rendering their attempts abortive, with the loss of the money thus injudiciously employed. Whilst the Bengally, by the simplest machinery, and by the least possible expense, produces an equal quality of sugar from an equal portion of land, as the West-Indian planter, nay more, as appears by my comparative statements; it proves, either that his means are better proportioned to his end, and want not the aid of European science or European machinery, or that the soil of this country is superior to that of the West-Indies. I mean not by this to infer, that the cultivation and manufacture of sugar in these provinces are not capable of improvement; nor that more may not be produced, and of a better quality, from a given quantity of land, by a different process; I wish only to guard against hasty and rash innovations, and unfounded opinions, which do injustice to a whole people. I am well aware, that the sugars at present made in Bengal, are not generally so well adapted to the English market as they might be; but this evil will soon remedy itself, as it is the manufacturer's interest to make his commodity of that quality which will best please his purchaser, or, in other words, sell for the best price.

Improvements on the cultivation and manufacture of sugar might perhaps be more speedily effected, if accounts of the most approved methods practised in

* On this subject, see "Rights of West-Indians to a Double Monopoly examined."

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in other countries were distributed throughout the districts where sugar-cane is cultivated, for the information of the cultivators and manufacturers in general; leaving it to operate on their minds for adoption or otherwise, as they might deem it advantageous to their interest. Or Government might cause experiments to be made on the various soils of Bengal, of all the different modes of cultivating and propagating sugar-cane used in the West-Indies, Batavia, and China, and publish the results for the general information of cultivators here.

It may be objected, that the obstinate adherence to old customs, which so peculiarly distinguishes the natives of Bengal, would limit the progress of any improvement to the practice of such Europeans as may be permitted to become sugar-planters. Admitting that the Bengally is perhaps the most tenacious and untractable of his species, the influence of example, combined with the conviction that it is his interest to follow it, will, though slowly, yet most certainly, in time work every good effect that can arise from change, as many recent instances which might be pointed out will confirm.

But not to trespass further on your patience in the wide field of opinion and conjecture, I trust that what I have urged will fully prove what I proposed in this address, the ability of Bengal to supply England with sugar cheaper than the West-Indies, under the present view of things, can possibly do, provided due encouragement is given to the cultivator, and the obstacles that impede its free conveyance are removed.

I think it necessary to inform you also, that the greatest part of this address was penned when the first accounts were received here of the great rise of sugars in Europe, and would have been transmitted several months ago, had not ill health prevented me. Subsequent advices mention a considerable reduction in the price of that article, which, although affecting the extent of my calculation of profits on importation to Europe, does not attack the principle on which they are formed, since I have shewn, that one-half of the prices quoted would amply remunerate the merchant. For which reason I have not altered them, as it would be impossible to accommodate any exposition founded thereon at this distance, to what is in its nature perpetually varying; and I have only to observe, that they refer to our knowledge of the European market in the month of August last (1792).

I have the honour to be, &c. &c.

ESTIMATE of the Cost and Outfit of a Ship, 500 Tons Burthen, built at Philadelphia of Live Oak and Cedar.

	Spanish Dollars.	
Carpenter's bill for the hull, at 17 dollars per ton, for 500 tons	8,500	
Masts, rigging, sails, boats, anchors and cables	8,500	
Sheathing and coppering	5,000	
Provisions, small stores, &c. for the voyage, and two months' impress to the ship's company	2,500	
Interest of money and premium of insurance on this sum for the voyage, at 13 per cent.	3,185	
Sailing charges for 10 months, at 500 Spanish dollars per month	5,000	
Port charges in India	2,500	
		35,185
Deduct supposed value of the ship on her return		20,000
Total expenses of the voyage	Sp. Dollars	15,185

Which makes the freight of 500 tons from America to India and back on a new copper-bottomed ship, with large allowances, amount only to $30\frac{37}{100}$ dollars per ton, carpenter's measurement; or reckoning the dollar at 4*s.* 4*d.* sterling, to £6. 11*s.* 7*d.* A merchantman will usually carry one-half more than the carpenter's measurement, but we will allow this ship to carry one-fourth more;

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more; her real tonnage to the owners will then be £5. 5*s.* 3*d.*, out and home; or say one-third out, £1. 15*s.* 1*d.*, and two-thirds home, £3. 10*s.* 2*d.* per ton.

FACTS stated, from which it will appear that the foregoing Estimate is a Medium of the real Cost of Tonnage to the Owners of American Vessels.

	Sp. Dollars.
1st. The owner of an American vessel from the port of Boston, now at Calcutta, which will carry about 350 tons, informed me that her first outfit and cost amounted to ...	12,000
And that her sailing charges did not exceed 200 dollars per month, which allowing twelve months for the voyage, and deducting two months' impress included in the outfit, is	2,000
Premium of insurance on the first cost and outfit, at 13 per cent.	1,560
And port charges in India	1,500
	17,060
And say the vessel on her return is only worth	8,000

The whole expense of the voyage is Sp. Dollars 9,060

Which on 350 tons is dollars $25\frac{88}{100}$ per ton, or reckoning the dollar at 4*s.* 4*d.* sterling, is £5. 12*s.* 1*d.* for the voyage out and home.

2d. A new ship, from Salem, of the following dimensions and burthen, cost to sea, with impress and provisions, £6,000 sterling, and is navigated with 35 men, at the expense of 300 dollars per month.

	Feet.	In.
Length of keel and strait rabbit	102	0
Breadth extreme	32	6
Depth of hold	13	0
Height on orlop deck	5	8
Ditto on gun deck	6	6

Burthen in tons, by carpenter's measurement, 585, will carry 800 tons. The expense of navigating this ship is as follows:

Cost of the ship with two months' impress	£6,000
Interest of money and insurance on this sum for the voyage at 13 per cent.	780
Wages for 10 months, which allowing one year for the voyage, and deducting the impress, at 300 dollars per month, is 3,000 dollars at 4*s.* 4*d.*	650
Port charges and expenses in India, the commander states at	600
Allow for wear and tear, and diminished value of ship, with impress and outfit	1,500
	£3,530
The expense of her voyage is sterling	£2,470

If we allow this ship to carry 700 tons, the expense per ton out and home is	£5	0	10
The Boston ship's tonnage	5	12	1
The new coppered ship	5	5	3
	15	18	2
Average of three ships per annum	5	6	$0\frac{5}{8}$
Ditto of ditto per mensem	0	8	10

APPENDIX TO THE LETTER FROM A BENGAL PLANTER.

No. 1.

Calcutta, 10th July, 1792. Letter from a Bengal Planter.

Substance of a Conversation with Godadur, Mundel, of the village of Deca, in the purgunnah of Renalty, and province of Burdwan, distance about* 24 *coss* (50 miles) *from Calcutta.*

Q. What is the size of your begah?—*A.* It consists of 20 cottahs, each cottah 80 cubits long, and 4 cubits broad, or 320 square cubits of 20 inches long, which makes 6,400 square cubits to the begah, equal to 17,777 9 inch. square feet—or square yards 1,975 2 9—about 2-5ths of an acre.

Is the soil of your village well adapted for the culture of sugar-cane?—Yes, it is reckoned to be nearly equal to any ground in the province of Burdwan.

What is the nature of the soil of your village lands, which renders it so fit for the produce of sugar cane?—It consists of a mixture of whitish clay, and very small sand, nearly in equal proportions.

Is the situation elevated or low?—It is considerably elevated, I think, at least the height of a torr tree (about 30 feet) above Calcutta; we never suffer from too much rain, but are sometimes injured by droughts.

What mode of cultivation do you pursue in raising the sugar cane?—We plant our canes at the distance of one cubit (20 inches) every way from each other. The plants used are cut from the upper part of the cane, which yields little juice; we first plant them close together, as the canes are cut in the months of December, January and February, in moist ground, at the edge of a tank, or near water, where they remain about six weeks or two months, and when they are grown about six inches high, we remove them to dry earth for a few days, and water them there, and then transplant them to the ground they are to occupy in the months of March and April. Before the canes are transplanted, we plough the ground several times, and manure it with a compost made of the soil or mud taken from the bottom of tanks, rotten vegetables, and cows' dung; and when the plants are put in the ground, we strew it over with coil, (oil cake) broken to dust†, in the proportion of 10 seer (20 lbs.) to a begah, watering them at the same time. Two days after planting, we throw up the earth around every young plant, and continue to water them constantly, when no rain falls; we are also particularly careful in weeding them frequently, and suffer no grass to grow amongst the plants. When they attain the height of a cubit, we again strew the ground over with the dust of oil cake, in the proportion of 2 maunds (164 lbs.) to a begah. Each plant, upon an average, produces 12 stalks, or shoots; I have seen some with 30, others four or five only. When the canes get above the height of a cubit, we tie the stalks of each plant together; and when they rise to the height of three cubits, we bind the produce of four plants together, and continue binding up the leaves, and tying them round the canes, from the time they are about one cubit high, until they are cut. If the canes are very long, we bind the stalks of 16 plants together‡. We begin to cut our canes about the latter end of December, and generally conclude about the middle of February. Ten or twelve days before we commence cutting, we water the ground abundantly, which makes the juice rise. We cut down our canes with a codaly §, strip off all the leaves, and cut off the heads, reserving those fit for plants. The other heads and leaves, if green, are eaten by the cattle; the dry ones, together with the husks of the canes, serve to boil the juice into gour. When all the canes are cut, we plough up the roots, by passing the plough first between, then through them; after which we gather them together in a heap, and let them rot for manure. We do not plant the same ground with canes two succeeding years, but after canes we sow mustard seed or teel, and sometimes paddy, for the Owse (August) crop. Industrious ryots cut their canes early, and sow their teel in all the month of February, which gives them a crop ready to cut in May, when they plant rice for the Owse crop, which they reap in September; and then sow mustard seed, gram, wheat, or barley, which is cut down in February: when after the usual ploughing, manuring, &c. canes are again planted; and this is the usual course of husbandry in my pergunnah, on land where sugar cane is planted.

What is the usual tax or rent of such land as you have described your village to be?—Four rupees per begah for land planted with sugar cane; for land in general, taking in all sorts of produce, the medium rent may be about 2½ to 2¾ rupees per begah.

What may be the annual expense of cultivating any given quantity of land in your village (say fifty begahs) which is planted with sugar cane?—A ryot performs most of his business with his own family, and perhaps a hired servant or two, who if engaged for twelve months, usually receive their victuals, and ‖ 12 annas per month wages; if they receive no victuals, their wages are 2 rupees per month.

* Bailiff.

† Perhaps to keep off the white ants and other insects, which are often fatally destructive to the canes, particularly on lands but a short time thrown into cultivation.

‡ This effectually secures them against the violent winds which prevail in that climate.

§ An instrument like a large adze or hoe, with a short handle, which answers the purpose of a spade, and is put to many other uses.

‖ Twenty-one pence sterling.

Suppose

Letter from a Bengal Planter.

Suppose a new ryot was to settle in your village, with no family to work for him, but who had money enough to buy all his implements of husbandry, build a house, hire labourers to perform all his business; and in short, to bear the whole charges of cultivation, what would it cost him to cultivate fifty or sixty begahs of ground, through the course of husbandry you have described?—I have never known such a person as you describe; and it would take much time to calculate the labour of hired workmen; but I will make the best calculation I can, and bring it to you in two or three days hence.

What is the usual produce of a begah of sugar cane, under your own immediate cultivation, when manufactured into gour* ?—I have for many years planted five begahs annually with sugar cane, and the medium produce thereof in gour, has been 150 maunds, or 30 maunds (of 80 sicca weight, to the seer) to a begah; of a very good quality, such as would sell in Calcutta for 3 ½ S.Rs. per maund, and in general 2 S.Rs. to 2 ½ in this market, or 1 ½ to 2 S.Rs. on the spot. A very good season will give me 35 maunds per begah; a very indifferent one 25 maunds. As we water our canes constantly, the produce does not so much depend on the variety of seasons, as on the care and attention of the cultivator; and most of the ryots who cultivate cane, being rich, they can generally afford to bestow proper labour and manure on their cane grounds, so as to return them constantly an abundant crop.

Is not the weight of a seer in your purgunnah 60 siccas, and are you sure you mean the Calcutta maund of 80 sicca weight to the seer?—I have generally sent my gour to Calcutta market, and have therefore calculated it by that weight. Gour in Burdwan is sold by the poll, which poll is estimated to contain but 21 to 25 seers of 60 sicca weight, but its real weight is always found to be 30 to 32 seers of 80 sicca weight, from which arises great profit to the merchants, and loss to the ryots.

How many seers of the juice of the cane is requisite to make one seer of jagery?—From five to seven, if the juice is rich, or produced from canes that grow on high grounds (tatton): five seers of juice will make one seer of gour; if from canes produced on low grounds, called hodgebatty, it takes seven seers of juice to make one seer of gour.

Appendix, No. 2.

Calculate, by Godadhur, Mundel, of the Expense and Produce of sixty begahs of Ground in the ordinary course of Husbandry, in the purgunnah of Renalty, which had before been brought into cultivation, *supposing the whole to be done by hired labourers.*

EXPENSE.

	S.Rs.	A.	P.	S.Rs.	A.	P.
1st. *Ground rent, as follows:*						
Five begahs sugar cane - - - - - - at 4 rup.	20	0	0			
Five ditto for gram, ditto - - - - - 3 —	15	0	0			
Five ditto for mustard and teel - - - - - 3 —	15	0	0			
Five ditto tobacco, subjee, &c.; viz. esculent roots and vegetables, such as yams, brinjalls, potatoes, melons, pumpkins, turmerick, ginger, &c. - - - - - - - - - -	20	0	0			
Five begahs for cotton - - - - - - at 4 rup.	20	0	0			
Thirty-five ditto for rice or dhan - - - - 2 —	70	0	0			
S.Rs.				160	0	0
Medium of ground rent, 2 S.Rs. 10 annas, to 2 Rs. 12 annas per begah.						
2d. *Cattle, Implements of Husbandry, &c.*						
Four bullocks - - - - - - - - - at 10 rup.	40	0	0			
Stable for ditto - - - - - - - - -	4	0	0			
Two ploughs (the best) shod with iron - - - - - -	4	0	0			
Six cuddalies, or hoes - - - - - - - -	3	0	0			
One hatchet - - - - - - - - - -	1	0	0			
Two cuttaries, or small cleavers - - - - - - -	1	0	0			
Six foor, or instruments for weeding - - - - - -	1	0	0			
Six castea, or sickles - - - - - - - - -	1	0	0			
Twenty-four baskets, common - - - - - - -	1	0	0			
Four ditto for water - - - - - - - - -	0	8	0			
Jute rope, water pots, sieves, &c. - - - - - -	1	0	0			
Oil cake to manure the cane ground - - - - - -	5	0	0			
Screws for expressing the juice from the canes, and pots to boil ditto	5	0	0			
				67	8	0.
3d. *Plants and Seeds for the First Year:*						
Five begahs sugar canes (about 35,000 plants) - - - -	10	0	0			
Arhur, 15 seers, to grow as a fence about the canes - - -	0	4	6			
Five begahs gram or pulse, viz. two begahs mussour, 12 S.Rs. per begah, 24 S.Rs. - - - - - - - - - - -	0	8	0			
Three ditto pease, 15 seers, at Rs. 1. 5. per maund - - -	0	11	3			
Carried over S.Rs.	11	3	9	227	8	0

* Gour is a substance equal to, or somewhat like muscovado sugar, before the molasses are drained from it.

	S.Rs.	A.	P.	S.Rs.	A.	P.
Brought forward - - -	11	3	9	227	8	0
Three begahs barley, 10 seers per begah, 30 seers - - -	0	9	0			
Paddy for these 5 begahs, at 15 seers per begah, is 1 maund 35 seers	1	12	0			
Five ditto mustard seed, at 4 seers per begah, 20 seers - - -	1	4	0			
Paddy for ditto, 15 seers per begah - - - - - -	1	12	0			
Five ditto cotton, at 4 seers per begah, is 20 seers - - -	1	4	0			
Paddy for ditto, 15 seers per begah - - - - - -	1	12	0			
Five ditto greens and subjee - - - - - - -	1	0	0			
Thirty-five ditto paddy, or dhan for the Augunny crop, 15 seers per begah, 13 maunds 5 seers - - - - - - - -	13	2	0			
Teel to sow in the same ground, at 4 seers per begah, is for 15 begahs 1 maund 20 seers - - - - - - - - -	1	8	0			
Kessary for 15 begahs, at 15 seers per begah, is 5 maunds 25 seers -	2	10	0			
				38	0	9
4th. *Wages of Labourers, &c.*						
Six husbandmen, at 2 Rs. per month, is per annum - - -	144	0	0			
Hiring additional labourers to cut and grind the cane, and boil the juice - - - - - - - - - - - -	15	0	0			
Straw and fodder to feed the cattle, at 12 annas per month, four bullocks - - - - - - - - - -	36	0	0			
An overseer at 5 Rs. per month - - - - - - -	60	0	0			
				255	0	0
Expense for the First Year - -			S.Rs.	520	8	9

Letter from a Bengal Planter.

The succeeding year's Expenses will be about 450 S.Rs. per annum.

PRODUCE.

	Quantity.	Value on the Spot, on a Medium of 5 Years.			Present Value in Calcutta.		
	Mds.	*R.*	*A.*	*S.Rs. A. P.*	*Per Mnd.*	*S.Rs.*	*A.*
Sugar Cane, 5 begahs, will yield, in general, of gour or jaggery - - - - - -	150	1	8	225 0 0	3 8 0	575	0
Value of Plants for next year would sell for - - -	-	-	-	20 0 0	- -	20	0
Arhur planted round the edges of the canes for a fence - - - - - - -	10	0	12	7 8 0	1 8 0	15	0
Gram, &c. 5 ditto, from October to February, will give of mussour, which is made into doll, or split pease - - - - - -	6	0	8	3 0 0	2 0 0	12	0
Pease - - - - - - - - -	6	0	10	3 12 0	1 2 0	6	12
Barley - - - - - - - - -	6	0	12	4 8 0	1 4 4	7	4
And during the months of May, June, July, and August, the same ground will yield a crop of Rice, in quantity - - -	30						
Or 300 pollies, which is a measure weighing 4 seers, sold in the market at 22 pollies per rupee, or - - - - - - -	-	-	-	13 10 2	10 pol. p. rup.	30	0
Mustard Seed, 5 ditto, from October to February, will yield - - - - - -	15	1	8	22 8 0	2 8 0	37	8
An Ouse crop of Paddy - - - -	30	-	-	13 10 2	- -	30	0
Subjee, 5 ditto, viz.							
Bagan or bringalls, 1 begah, - - - -	worth	-	-	20 0 0	- -	40	0
And on the same ground, jungee - - -	ditto	-	-	3 0 0	- -	6	0
Puttel, 1 begah - - - - - -	ditto	-	-	20 0 0	- -	40	0
Shooshow (or cucumbers), 1 ditto - -	ditto	-	-	20 0 0	- -	40	0
Turmooge (or melons), 1 ditto - - -	ditto	-	-	25 0 0	- -	50	0
Alloo (or potatoes or yams), 1 ditto - -	ditto	-	-	30 0 0	- -	60	0
Cotton, 5 ditto, from October to June - -	15	3 seers		45 0 0	4 0 0	60	0
And a late Ouse crop of Paddy - - -	30	-	-	13 10 2	- -	30	0
Rice, 35 ditto, 1 Augunny crop planted in June, and cut in November, sold in the husk at 20 polly, or 2 mds. per rupee, - produce	210	2 mds. per rupee.		105 0 0	- worth	312	8
During the months of November, December and January, they get from the rice ground, from the dry parts, a crop of kissary gram, made into doll - - - - - -	35	0	8	17 8 0	1 rup. p. mnd.	35	0
And from February to May, a crop of Teel, from which oil is made - - - -	35	0	12	22 4 0	1 4 0	43	12
And Uurcha, a kind of greens - - -	-	-	worth	20 0 0	- worth	50	0
Straw, about 50 cahouns each, containing 16 pons, of 80 bundles to the pon - -	-	-	-	50 0 0	- -	100	0
				704 14 6	S.Rs.	1,600	12

Letter from a Bengal Planter.

	S.Rs.	A.	P.
Total amount produce of six begahs, as above, *upon the spot*	704	14	6
Deduct expense	520	8	9
First year's profit S.Rs.	184	5	9

The expense of cultivation for every succeeding year being only 450 S.Rs. the profits would be increased to S.Rs. 254. 14. 6. or 4 S.Rs. 3 an. 10 p. per begah.

	R.	A.	P.
Amount produce of five begahs sugar cane, 150 mds. at 1 R. 8 A. per maund	225	0	0
Value of plants	20	0	0
Arhur Gram	7	8	0
S.Rs.	252	8	0
Deduct annual expense, estimated at 20 rupees per begah	100	0	0
Annual profit	152	8	0
Or, per begah S.Rs.	30	8	0

The begah at Renalty is a square, the sides of which measure 44 yards 1 foot 4 inches, consequently it contains 1,975 yards 2 feet 9 inches.

Five begahs are equal to 2 acres 6 poles and 15 yards.

One hundred and fifty maunds of gour, supposed to produce 75 bazar maunds of muscovado sugar, or 2 tons 15 cwt. is 1 ton 7 cwt. 1 qr. 1 lb. per acre, and would cost as follows:—

Seventy-five maunds of muscovado sugar, costs S.Rs.	100	0	0
Deduct 75 mds. of molasses, at 8 annas	37	8	0
Cost S.Rs.	62	8	0
Exchange, 2*s.* 4*d.* per S.R.	£. 7	5	10

Equal to £. 3. 12*s.* 3¼*d.* per acre, or 2*s.* 7¼*d.* per cwt.

Appendix, No. 4.

AVERAGE Expense and Produce of Land cultivated with Sugar Cane, in the District of Burdwan; estimated from a great Number of Accounts taken on the Spot, from Native Cultivators, in different Purgunnahs, by a Gentleman well acquainted with the District.

No. 1.	Average Rent per Begah, 6,400 square Cubits.	Expense of Cultivation and preparing the Produce.	Average Produce of 80 Sicca Weight to the Seer of Jaggery.	Average Value of Produce per Maund.	AMOUNT.	PROFIT to the Cultivator.
	S.Rs.	*S.Rs.*	*Mds.*	*S.Rs. A.*	*S.Rs. A.*	*S.Rs. A.*
SUGAR CANE	3	15	19	1 12	34 4	15 4

No. 2.	Jaggeree.	Medium Produce in Dobarra, or clayed Sugar.	Residuum in Coutra, or Soort.	Value of Coutra.	Quantity lost in the Operation, being Scum, and very thin Molasses, of little or no Value.	
	Mds.	*Mds. S. C.*	*Mds. S. C.*	*S.Rs. A. P.*	*Mds. S. C.*	
1st Process	19	6 7 0	16 21 4	8 2 6	6 1 12	—
	Ditto of Common Dobarra.					
2d Process	19	8 3 0	4 30 0	5 15 0	6 7 0	—

No. 3.		Milk 1 Seer.	Fire-Wood.	Baskets and Earthenware.	Labour.	Total Expense.
		S.Rs. A. P.	*S.Rs. A. P.*	*S.Rs. A. P.*	*S.Rs. A. P.*	*S.Rs. A. P.*
	1	0 0 6	0 2 0	0 0 6	0 2 6	0 5 6

Extract of the Letter which accompanied the above Statements.

I HAVE now the pleasure to send you No. 1, the average estimate, &c. of four or five purgunnahs, which may be considered as the medium produce of the whole district in a tolerable season. I have limited the statement as applicable to the cultivator. With respect to the conversion

Letter from a Bengal Planter.

version of the product (19 maunds) into the best dobarra, or finest chinnee (on a muster produced), I have consulted many of the hulwyes and moiras, or sugar bakers, and the average of the report fixes the product at 5 maunds and 20 seers: the product of medium dobarra at 6 maunds 7 seers; and of the common, at 8 maunds 3 seers.

No. 2 exhibits the two last average statements. With respect to the expense attending the boiling and preparing the *chinnee*, it differs in every purgunnah, as the price of wood, labour, and other materials, are dear or otherwise. In the town of Burdwan, for instance, the average expense for the preparation of a maund amounts to 5 an. 6 pice (No. 3); but this is dearer by 20 per cent than it is when prepared in the country, where wood and labour is cheaper; and the preparation of a larger quantity will of course render the expense less.

Sugar cane ground is only cultivated on a medium, in this district, three years out of five; and is most productive on high grounds, on the banks of rivers and nullahs, where water can be easily procured.

I cannot at present give you any tolerably exact statement of the quantity of the jaggeree, or chinnee, produced on this district of the last year's cultivation; perhaps the custom-house will exhibit the quantity exported to Calcutta. I have reason to believe, that the present year's produce (I mean the cane that will be cut in January) will considerably exceed that of the last, as great encouragement has been given, and I conceive the excess will be about one fourth; but of this you shall hereafter be more particularly acquainted.

I have stated the average value of the produce at 1 rupee 12 annas, reckoning from the 1st of January to the 1st of July 1792: since which last period, as the commodity has been scarce from the great demand, and the approach of the Hindoo holidays, where much is consumed, the price has been high and arbitrary. It is now 2 rupees 10 annas in the markets, and in small quantities only.

N. B. If we reckon two maunds of gour to produce one maund of muscovado sugar, the average produce of lands in Burdwan cultivated with sugar cane, will be as follows:

If 19 maunds of gour were made into muscovado sugar, it would yield 9 maunds, 20 seers, and cost - - -

Letter from a Bengal Planter.

of a begah of sugar cane land, and I now enclose you the particulars, as correctly stated as I could procure them; it is almost impossible to come at the exact disbursement, because there are no ryots, or other description of persons in this district, who confine their labour or attention to the cultivation of sugar cane alone. A ryot who has twenty-five begahs of land, cultivates, upon an average, no more than two begahs thereof in sugar cane, the rest is used for the production of teel, mulberry, cotton, rice, and other grains; the proportion of sugar cane scarcely ever exceeds 3 in 25, in lands best calculated for the production of cane. The ryot, therefore, and his family, together with the labourers hired, distribute their work where it is wanted on the general estate, and this is regulated by the weather and the season. The ryot keeps no particular account of the labour given to sugar cane, hence arises the difficulty of proportioning its value.

With respect to the detailed calculation of manufacturing goor into chinee, the one I sent you is as near the truth as can be procured.

The inhabitants of the mofussil know nothing of chinee, but by name; they have done with the produce of cane, after it has been converted into goor; their sweetmeats and home consumption are confined to this. The little chinee consumed in the district, centres amongst a very few of the opulent natives, and there are not above three or four places where it is made. Hence you may conceive they are not very expert in the manufacture. The scum and residuum which you distil, are of little or no use to the sugar-boilers; it is chiefly purchased to form a compost for the fodder of cattle, and at a very inconsequential price.

When I rated the expense of cultivation and preparation for the produce, at 15 rupees, I included the value of the ryot's own labour.

The other points in your first letter, I hope to be able to ascertain pretty correctly, particularly those which relate to the quantum of produce of cane of the last and present year.

Appendix, No. 4.

A Statement of the Expense and Produce of a Begah of Awhk, or Sugar Cane, in Punchaun Gong, the 55 Villages which are in the vicinity of Calcutta, and attached to that Collectorship, together with the Method practised in cultivating the same, and boiling the Juice into Sugar, the whole collected from the separate Accounts of Ramjoy Mundell of Dhee, Tullickram Ghose of Dhee Chitpore, and Jazernaut Bhose of Bohar Simlah, which were compared together, and found to correspond.

RENT of one begah of 20 cottahs, one cottah being equal to 80 cubits in length by 4 in breadth, making 320 square cubits for the cottah, or per begah 6,400 square cubits, equal to 1,600 square yards, from 4 to 2 rupees per begah.

Average rent - - - - - - - - - - - - - - S.Rs.		3	0	0
Plants*, 3 cahoons, or 3,840, at 1 rupee 5 annas per cahoon - - - - -		3	15	0
Khully, or oil cake (which is the husks of mustard seed, after the oil is expressed) 1 maund 10 seer, at 8 annas per maund - - - - - - -		0	10	0
Chause, that is ploughing, will require 1 plough for 10 days, or 10 ploughs for 1 day, at 2 annas per day; the usual hire of a plough with 2 bullocks and driver - - - - - - - - - - - - - - - -		1	4	0
Dogah Haupoor Sooaye, putting the plants into the haupoor, which is moist ground, near the edge of water, where they are first placed in an inclined direction, in the month of Phaugun, or January, and where they continue about 2 months, or until they vegetate, and grow to the height of 6 to 12 inches, will require labour equal to that of 1 man for - - - - - days	9			
Beye Doolah Haupoor Sooaye, to remove the plants to the doolah hauper (dry earth) where they remain 4 days before they are transplanted into the cane field, equal to the labour of 1 man for - - - - - - -	4			
Jole Dewah, or watering them on the doolah hauper - - - - -	2			
Khoodiah, making holes near the roots of every plant to lodge water, for its immediate nourishment, 5 days after planting - - - - - -	5			
Roowah, planting, or removing them from the doolah hauper, and planting in the ground they are to occupy, where they are placed about one cubit asunder - - - - - - - - - - - - - -	10			
Jole Dewah, watering, &c. after planting - - - - - - -	8			
Dannrah Toolah, digging a trench between each row of canes, and throwing up the earth around the plant - - - - - - - - -	5			
Pullah Bhangah and Neeran, weeding and stripping off the leaves, from the months of Bysack to Sawgun, or April to July - - - - -	12			
Puttah Baundah, tying up the leaves, and binding the canes together, from Bhadoon to Augun, or from August to November - - -	20			
Number of days employed - - -	75			
at 3 rupees per month -		7	8	0
Carried forward - -		16	5	0

* 4 Units one Gundah
80 - - 20 Gundah a Pun
1,280 - - 320 - - 16 Puns a Cahoon.

Every thing by tale is thus reckoned in Bengal.

The plants or pieces of cane are usually long enough to cut in two pieces, of course, 3,840 make 7680 plants.

Letter from a Bengal Planter.

Brought forward - - S.Rs.	16	5	0
The canes are cut with what the natives call a hishoo castia, or crooked knife. To cut, strip, and prepare the canes for market, and the heads to plant, in an abundant crop, will require 6 men for 10 days; a middling crop 6 men for 8 days, is 48 days, at 3 rupees per month - - -	4	12	9
* Total expense of cultivating one begah, is - - S.Rs.	21	1	9

All the sugar canes cultivated in Punchaun Gong, and the vicinity of Calcutta, are sold as they are cut and eaten by the natives in that state, each cane selling on an average for 10 gundahs, or 40 cowries, giving at this rate 128 canes for one rupee, the medium price of cowries at Calcutta being 5.120 or 4 cahoons per Sicca Rupee.

If the canes are sold in Calcutta bazar, to be eaten as cut, a good crop may produce upon a begah about 20,000 good merchantable canes, consequently, at 10 gundahs each, they will be worth - - - - - - - - - S.Rs. 156 4 0

A middling crop, 18,000 canes, worth - - - - - -	140	10	0
A bad crop, 16,000 ditto, worth - - - - - - - -	125	0	0
† Say medium value of canes - - - - - - - - -	125	0	0
Deduct expense of cultivation above - - - - - - -	21	1	9
Profit to the cultivator - - - - S.Rs.	103	14	3

But if the average produce of a begah of canes was converted into gour or jaggery, it is supposed it would produce only 11 bazar maunds, of an inferior sort, called moat ‡, and the expense of manufacturing would be as follows:

One sugar mill, of the best kind, costs 2 Rs. 8 As. and will grind in a season the produce of eight to ten begahs, and last six or seven years: suppose it to serve only for six years, and grind five begahs, the annual charge is - - - - - S.Rs.	0	1	4
Nine jole hurry, or pots to boil the juice into shaar, cost 12 annas, but will manufacture the produce of five to ten begahs, say for one begah - -	0	2	5
Four gutchuas, or men to work the mill,			
One gootchee, or man to supply ditto with canes,			
One shawbareeah, the man who receives the husks of the canes as they pass through the mill, and carries the juice to the boilers,			
One jallooe, who attends the fire for boiling the juice of the cane into shaar, and assists the shawbareeah,			
One baureea, the person who boils the juice into gour or shaar,			
Eight men in all, who, if the crop is good, will take ten days to make the produce of a begah into gour or shaar; if a middling crop eight days, and if a bad crop six days; average eight days, is altogether sixty four days labour, at 4½ S.Rs. per month for each man, is - - - - - - - -	9	8	5
Forty four culsies, or earthen pots, into which is put the shaar or jaggery, to carry to market - - - - - - - - - - - -	1	6	0
Total expense of manufacturing - - - S.Rs.	11	2	2
Expense of cultivating, as before stated - - - -	21	1	9
Total for one begah - - - S.Rs.	32	3	11

Producing eleven maunds of shaar, which somewhat resembles inferior muscovado sugar, the present price of which (the shaar) is 5 S.Rs. per maund; but on the medium of former years, about 3 Rs. 8 As. per maund, consequently the profit to the cultivator would then have been S.Rs. 6. 4. 1, and at present is about S.Rs. 22. 12 As. 1 P.

The Process of manufacturing the Juice of the Cane Gour, or Jaggery, is as follows:

THE cane juice, as expressed, is received into a jar, called a rasher caupry, from which it is conveyed, and strained into a larger one close to the pots, called a rasher daubooe, which answers as a reservoir. Six jole hurry, or pots, holding each about 15 seers, or quarts are placed in this form ꝏ ꝏ ꝏ, and cemented together with clay. The middle pots are raised a little, so that the upper part of the whole is convex, and the lower concave, which makes the place, where the fire is put, not unlike a small oven, with two apertures at opposite sides to admit the fuel and vent the smoke. When the boiling first commences, the three pots next the mill are filled almost full of juice, two others about half full, and one is left empty. The juice in the two that were only half full, when boiled to a proper consistence, is removed with a ladle, called oorkee, made of a cocoa-nut shell, fixed to a stick, into the empty pot where it undergoes a second boiling until sufficiently inspissated, or formed into gour or jaggery; it is then put into an earthen pot, called a kulsee, in which it is carried to market for sale, being in a merchantable state. Upon removing the contents of the two pots that were only half filled into the pot that was empty, the

* *N. B.* Were the canes only to be cut for grinding, the labour would not be more than 16 days, it requiring much time to trim them for sale.

† This is taking the lowest calculation, the reader will select which he thinks proper, and allow for the difference between them.

‡ All operations produce a very inferior jaggery, called shote, besides the shaar and moat.

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juice that was put first into the three pots is sufficiently reduced, to be contained in the two that were recently emptied, and is accordingly taken out and put into them, to undergo another boiling, and from thence into the third and last pot, to undergo the final boiling, when the first three pots are again filled with fresh juice, and thus the business is continued until all is finished.—During the time the jaggery is boiling they throw into the upper pot a small quantity of ashes, produced by burning the dry leaves or branches of the plantane or cocoa-nut tree, which makes it granulate.

Eleven maunds of shaar, such as they have described, will produce about eight maunds of muscovado sugar, and cost		32	3 11
Deduct 3 maunds of shôte, which will sell for	1 8		
Ditto for plants, value at	7 0		
		8	8 0
S.Rs.		23	11 11
Exchange, at 2*s.* 4 *d.* per S.Rs. Stg.		£. 2	15 5

One begah of sugar cane yields 8 maunds of muscovado sugar, equal to 5 cwt. 3 qrs. 13 lb. which gives 17 cwt. 2 qrs. 27 lb. per acre, and costs at the rate of 9 *s.* 5¼ *d.* per cwt. or 8 *l.* 7 *s.* 4 *d.* per acre. It is reckoned that sugar plantations in Punchaun Gong produce, on a medium, 14 cahoon of canes, or 17,920 per begah, that four canes yield one seer of juice, and ten seer of juice make one seer of shaar, by which it appears that the juice of the canes produced near Calcutta is inferior to that of the canes produced in Burdwan a full third; or that the same quantity of juice of the latter would yield, when manufactured, one-third more of gour or shaar than the former.

Appendix, No. 5.

Estimate of the Expense and Produce of Ten Begahs of Sugar Cane in Beerboom, if cultivated by hired Labourers, from the Account of Ramnarain Choudry, as collected by him from sundry Ryots of that District.

			S.Rs.
RENT of 10 begahs of best ground, 4 Rs. per begah			40
Hire of two husbandmen for a year			48
Dung and oil cake for manure			20
Hire of additional coolies to cut and plant the canes			5
A plough	0 8		
Two bullocks	10 0		
Plants	20 0		
One sugar mill (Bengally construction)	1 0		
Pots to boil the juice, codallies, &c.	5 8		
Additional labourers to grind the canes and boil the juice	30 0		
Sheds or huts	5 0		
			72
S.Rs.			185

Equal to 18 Rs. 8 As. per begah.

Ten begahs will produce 280 maunds of good gour; which, when strained, will give 140 maunds dry jaggery, called by the natives Dooloah, a substance much resembling Muscovado sugar; and this, from experiments I have made when boiled and refined, will yield about 70 maunds fine clayed sugar, and (with the first drainings of the jaggery) 180 maunds of molasses, there being a loss of about 10 per centum in the process; such sugars, on a medium of former years, were worth about 7 Rs. per maund of 80 sicca weight in Calcutta, but now would be worth 12 Rs. per maund.

The above statement makes the profits greater in Beerboom, on the cultivation of sugar cane, than any other district which I have heard of in Bengal, except the village of Deca, and I am rather inclined to think the produce over-rated; however, Ramnarain persisted in assuring me, that the best land there always yielded at the rate of 28 maunds per begah, and on that account paid the high rent of 4 sicca rupees; the ground rent in that district being in general very low, and labour very cheap.

The foregoing estimate is formed on reckoning the begah to contain 6,400 square cubits, and the Beerboom maund at 58 rup. 10 annas sicca weight to the seer.

By the foregoing statement the whole expense of 10 begahs of sugar cane is S.Rrs.			185 0
Deduct plants		20	
One plough	0 8		
Two bullocks	10 0		
One sugar mill	1 0		
Pots to boil the juice, codallies, &c.	5 8		
Sheds or huts	5 0		
	22 0		
Less ¼ for wear and tear	5 8	17 8	37 8
The net expense therefore is			S.Rs. 147 8

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For producing 140 maunds of muscovado sugar, of 58. 10. seer weight, equal to 102 mds. 23 seer 12 ch. of 80 sicca weight, costs as above - - S.Rs.	147	8	0
Deduct 102 mds. 23 srs. 12 ch. molasses, at 8 as. per maund - - -	51	4	9
S.Rs.	96	3	3
Exchange, at 2 *s.* 4 *d.* per R. sterl. - - - £.	11	4	5¾

Ten begahs of sugar cane yields 140 maunds of muscovado sugar, of 58. 10. sicca weight to the seer, or 102 maunds 23 seers 12 ch. of 80 sicca weight, equal to 3 tons, 15 cwt. 26 lb. which gives 1 ton 2 cwt. 3 qrs. per acre, and costs 3 *l.* 7*s.* 10½*d.* or 2*s.* 11¼*d.* per cwt.

Appendix, No. 6.

Calculate of the average Expense and Produce of one Begah of Sugar Cane, from a Gentleman in Beerboom.

	S.Rs.	A.	P.
Four ploughings, at 1 an. 9 pice	0	7	0
Two harrowings	0	3	0
Ten bullocks loads of dung	1	12	0
Plants	3	0	0
Four maunds oil cake	1	4	0
Labourers planting, weeding, and watering	2	0	0
Ditto cutting the cane, grinding it, and boiling the juice	4	6	0
Proportion of expense for a shed	0	14	0
Bullock hire grinding the cane, 16 bullocks, seven days	3	8	0
Rent	3	0	0
S.Rs.	20	6	0

One begah of sugar cane produces 28 maunds of gour, which, on being refined, produces as follows:

	Mds.	Srs.
Sugar, 13 seers per maund of gour, is	9	4
Cutterah, 7 ditto - - - ditto	4	36
Jaggery, 15 ditto - - - ditto	10	20
	24	20
Wastage for boiling and scumming, &c.	3	20
Maunds	28	0

Sugar 9 maunds 4 seers, at 4. 8. S.Rs. per maund	40	15	4
Cutterah, 4. 36. a' 30 seers per rupee	6	8	0
Jaggery, 10. 20. a' 1 maund 20 seers per ditto	6	0	0
	53	7	4
Cost of the gour - - - - - - - - -	28	0	0
Estimated charges - - - - - - - - -	10	8	0
	38	8	0
Profit - - - S.Rs.	14	15	4

Were the foregoing 28 maunds of gour of 58. 10. sicca weight to the seer, which are equal to 20 maunds 20 seer 12 ch. of Calcutta bazar weight of 80 sicca weight to the seer, converted into muscovado sugar, it is supposed it would yield 10 maunds 10 seer 6 ch. Calcutta bazar weight, and cost - - - - - - S.Rs.

			20	6 0
Deduct for plants - - - - - -		3	0	
Ditto for 10 maunds 10 seers 6 ch. of shote or molasses, which would sell for 8 annas per maund - - -		5	2	
			8	2 0
Cost - - - S.Rs.			12	4 0
Exchange, at 2 *s.* 4 *d.* per S.R. pound sterling			1	8 7

One begah of sugar cane, yielding 10 maunds 10 seers 6 ch. of Muscovado sugar, equal to 7 cwt. 2 qrs. 2 lb. which gives 1 ton 2 cwt. 3 qrs. per acre, and costs at the rate of 3*s.* 9½*d.* per cwt. or 4 *l.* 7*s.* 2*d.* per acre.

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Appendix, No. 7.

Statement of the Expense and Produce of a Begah of Awhk, or Sugar Cane, reduced to the Calcutta measure of 4 cubits to the cottah, or 6,400 square cubits to the Begah, in the province of Kishinazur, collected from the accounts of various Cultivators, by Durgachurn Muckergee, and compared by A. L.

EXPENSE.		S.Rs.	A.	P.
Rent of a begah of sugar cane		2	0	0
Beeje, or plants, 3 cahoons, 3,840		2	0	0
Dogah haupoor, putting the plants in moist ground to vegetate (month of Phalgun), labour of 1 man equal to	days 4			
Doolah haupoor, removing from the dogah haupoor, and putting in the doolah hauper (month of Bysack), labour	8			
Nangheel or chause, ploughing, 1 plough for 12 days, at 2 annas per day (Bysack)		1	8	0
Roowah, taking the plants from the doolah haupoor, and planting them	10			
Jaul dewah, watering the plants	5			
Boom codah, loosening the earth around the plants, which hardens after watering, and digging a trench to carry off the water	12			
Neeran, weeding	5			
Pattah banghah, plucking off the withered and bad leaves	8			
Pattah bandah, binding up the canes and leaves, to prevent their being blown down	20			
Gautch powah, mill consisting of two parallel wooden rollers, fixed in a frame, costs 1 rupee, will answer for 8 to 10 begahs, and last 5 to 6 years; say 5 begahs, and 5 years proportion of expense for 1 begah annually		0	0	8
Chattah, shed to grind the canes in, and boil the juice, will cost on a medium, yearly, for 1 begah		0	6	0
Baunee bandah and *gautch polah*, placing the mill, and digging a fire-place to boil the juice, annual medium labour for a begah	1			
Kattai, cutting the canes	10			
Beuirooe, head man to superintend the boiling of the juice into gour, 6 days, at the rate of 5 rupees per month		1	5	4
Goutchooahs, &c. men to grind the cane, carry the juice to the pots that boil it, and attend the fire, &c. 6 days for 8 men	48			
Proportionate annual expense for pots to boil the gour, baskets, &c.		1	4	0
Two large jars to hold the gour, called poyah		0	8	0
Oil for greasing the mill, and for lamp at night		0	4	0
Days labour	131	9	4	0
At $2\frac{1}{4}$ rupees per month, is		10	14	8
Total expense of a begah	S.R.	20	2	8

Produce of a Begah.

A good crop will give 8 mofussil maunds of gour, of a good quality, containing 7-8ths shaar, or thick gour, and 1-8th maaht, or thin gour, of 40 pots to the maund, or 320 pots of $2\frac{1}{4}$ Calcutta seers each — Calcutta Bazar Mds.	18	0	0
Middling ditto will give 6 mofussil maunds of gour, of a middling quality, containing $\frac{3}{4}$ shaar and $\frac{1}{4}$ maaht, or 240 pots ditto	14	20	0
Bad ditto, will give 4 mofussil maunds of gour, of an indifferent quality, containing $\frac{1}{2}$ shaar and $\frac{1}{2}$ maaht, or 160 pots ditto	9	0	0
Medium is 14. 20. bazaar maunds, worth upon the spot, on an average of former years, 2 S.Rs. per maund	29	0	0
Deduct expense	20	2	8
Profit to the cultivator who should hire labour — S.Rs.	8	13	4

Note, The best soil for the culture of cane is a mixture of clay and sand, called doas matty.
The next best is, a soil called baily matty, or light sand.
The worst is entirely clay, called mateyal matty.

	S.Rs.	A.	P.
14 maunds 20 seers of gour, taken as the medium produce, as stated above, will produce 7 maunds 10 seers of muscovado sugar, and cost	20	2	8
Deduct for 7 maunds 10 seers of shote, or molasses, which will sell for 8 annas per maund — 3 10			
Ditto for plants — 2 0			
	5	10	0
S.Rs.	14	8	8
Exchange, at 2 *s.* 4 *d.* per S.Rs. is sterling — £.	1	13	11

One begah of sugar cane yields 7 maunds 10 seers of muscovado sugar, equal to 5 cwt. 1 qr. 7 lb. which gives 16 cwt. 0 qrs. 7 lb. per acre, and costs at the rate of 6 *s.* $4\frac{1}{2}$ *d.* per cwt. or £. 5. 2 *s.* $4\frac{3}{4}$ *d.* per acre.

Appendix, No. 8.

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Estimate for Ten Begahs of Sugar Cane in the Baugulpore District.

	S Rs.	A.
RENT at three S.Rs. per begah	30	0
Plants	10	0
Labourers for planting, weeding, watering, binding up the canes, manure, &c.	32	8
Bullocks hire for ploughing and grinding the cane	16	0
Hire of labourers for cutting the cane, grinding it, and boiling the juice into gour	70	0
Iron pots to boil the gour	20	0
Baskets, earthen pots, &c.	3	0
Mill for grinding the cane complete	13	0
Sheds for the mill	6	0
S.Rs.	200	8
Deduct from the above:		
Plants for next year 10		
Mill, worth 10		
Sheds 4		
Iron pots 12		
	36	0
S.Rs.	164	8

Produce estimated at 13 maunds to the begah is 140 Baugulpore maunds.

The Baugulpore maund consists of 40 seers of 100 sicca weight to the seer, consequently each maund is equal to 1 maund 20 seers Calcutta bazar weight, and 140 Baugulpore to 175 Calcutta maunds.

The gour sells on the spot, upon an average, at 28 seers for the rupee, or about 1 R. 2 As. 3 $\frac{1}{7}$ P. the bazar maund.

175 maunds	S.Rs. 200	0
Deduct expense of cultivation	164	8
Profit to cultivator	S.Rs. 35	8

Or, S.Rs. 3. 8. 9. per begah.

175 maunds bazar weight of Baugulpore gour, would, it is imagined, produce about 80 maunds of muscovado sugar, at nearly the same expense and cost of 175 maunds of gour	S.Rs.	164 8
Deduct shote or molasses, worth about 8 annas per maund, 95 maunds		47 8
Cost	S.Rs.	117 0

80 bazar maunds are equal to 2 tons 18 cwt. 2 qrs. 18 lbs. which costs as above S.Rs. 117, at 2 *s.* 4 *d.* per S.R. is sterling 13 *l.* 13 *s.* or 4 *s.* 7 $\frac{3}{4}$ *d.* per cwt.

I am not informed of the size of the Baugulpore begah, and cannot therefore estimate the produce per acre.

Appendix, No. 9.

PURNEAH:—*Estimate for a Plantation of Twelve Begahs of Sugar Cane, cultivated by hired Labourers, taken considerably higher than the Ryots actual Expense.*

ONE plough complete	Rs. 1		
One cattle mill ditto	8		
Boilers of iron	16		
Eight head of cattle for the plough and mill	50		
Sheds, or huts, for the mill cattle, &c.	12		
Capital	Rs. 87		
Annual interest, wear and loss on the capital 24 per cent. per annum		20	14
Monthly servants for cultivation	22 8		
Hired labourers for ditto	16 12		
	39	4	
Monthly servants for the work	78 0		
Hired labourers for ditto	24 0		
	102	0	
Plants prepared	9	0	
Rent	18	0	
	189	2	
Deduct plants, annually worth 2 rupees per begah	24	0	
Total expense	Rs. 165	2	

Produce, upon a medium, 15 maunds gour per begah, will sell in general on the spot at 1 rupee per maund, cost to the cultivator about 14 As. 8 P.

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By the foregoing calculate, 12 begahs of land in Purneah produce 180 maunds of gour, and costs 165 rupees 2 annas: nearly the same expense would make the produce into muscovado sugar instead of gour, and the molasses would sell to the confectioner or distiller.

As gour in Purneah is not of the best quality, I imagine 180 maunds would produce about 80 maunds of muscovado sugar, which would cost as follows:

180 maunds of gour - - - - - - - - - - - -	Rs. 165 2
Deduct value of 100 maunds of molasses, at 18 annas per maund - - - -	50 0
Cost of 80 maunds muscovado sugar - - -	Rs. 115 2

The rupees current in Purneah are Patna Sonats, and rated by the Company at 111 Currents for 100 Sonats; but as the exchange varies generally more in favour of the Patna Sonats, I reckon them equal to Sicca Rupees, or 16 per cent better than Current Rupees, and the Sicca Rupee at 2*s.* 4*d.* sterling, which makes Rs. 115. 2. equal to sterling £ 613. 7*s.* 0½*d.*

80 maunds are 2 tons 18 cwt. 2 qrs. 18 lbs. the Purneah begah being 9,600 square cubits, gives the produce 9 cwt. 3 qrs. 12 lbs. per acre, and costs 4*s.* 6½*d.* per cwt.

The profit to the cultivator, by selling the produce on the spot, is S.Rs. 14. 14. 0. or sterling £1. 3*s.* 10*d.* per begah.

Appendix, No. 10.

Some Accounts of the Cultivation of the Sugar Cane, and Manufacture of Sugar, in Rungpore, and the Districts contiguous thereto, which produce what is usually denominated Goragaut Sugar.

THE cane cultivated in these districts is called Kadjellee Awhk, black cane, the rind being of a dark reddish brown colour.

It is planted on the highest grounds, and if the land intended for a sugar plantation be low, it is carefully raised to the height of three or four feet above the level of the circumjacent lands, and surrounded by a ditch.

A fine soft mould, mixed with a little sand, is the soil best adapted to the culture of sugar cane; it is called Do Kussah (two juiced).

To prepare the ground for planting, the ryot begins ploughing as soon as the rains cease in October, and the weeds and stubble of the former crop being rooted up, are left to rot for manure.

In the beginning of December he deepens the ditch which surrounds the plantation, and throws the earth which he thereby obtains, upon the ground intended to be planted. It is then ploughed again to break the clods, and mix the new with the old soil, and afterwards manured with such dung as the ryot has collected from his cattle, &c. when it is again ploughed, to incorporate the dung with the soil. In January the ploughing is repeated, and the soil broken fine and made level, and in February it is again ploughed into furrows or trenches about two feet asunder.

One begah, 6,400 square hauts (or cubits) requires about 7,000 plants; each plant is about one cubit long, and is laid in the trenches longitudinally, at the distance of about three inches from each other, when the earth from the intermediate ridges is drawn lightly over them.

When the plants begin to vegetate, the earth around them is loosened, and some part removed, that the cane may shoot up more freely. Each plant will put forth three or four shoots, though seldom more than one or two arrive to maturity. The canes are constantly weeded until they attain a sufficient height to check all other vegetation around them, and in the month of June they are manured with a liquid compost, made of dung and khally, (the refuse of mustard seed, after the oil is expressed) which mixed with water to liquify it, is then sprinkled over the field, and the ridges between the canes are turned up, and the earth thrown around them. This operation is sometimes done with a codally (or hoe) and sometimes with the plough. When the latter is used, the yoke is of such a length as to allow the bullocks to go in the ridges contiguous to that through which the plough is passing, which turns up the earth on each side, and throws it over the roots of the canes.

About the month of October, the canes acquire such a height, as to require support against storms of wind; three or four stalks are then tied together near the top, for mutual support, and are fastened with the lower leaves, which are stripped off for that purpose. The canes thus tied up are called jahrs, and as they increase in height, require farther support, when three or four jahrs are bound together.

The usual height of good canes is from 8 to 10 feet; some indifferent canes do not exceed 3 to 4 feet.

The canes from which the patlee (thin) gour is made, are usually cut in October and November; and those from which the danahdar (well granulating gour) is obtained, in December and January; sometimes as late as February.

The patlee gour is only made by those ryots whose necessities are so pressing as to oblige them to cut their canes at an early period, by which they sustain much loss; for the canes that are suffered to stand until December, January and February, are then at their full maturity, and produce a richer juice, and more abundantly than when cut in October or November; when the canes are cut, the leaves on the stalk are stripped off, and they are carried to the mill in bundles; the tops of the canes are first cut off, with the leaves adhering to the length of 12 or 18 inches, which are reserved for plants; the remainder are chopped into small pieces, of about two inches long, for grinding in the cattle mill.

Process of making Sugar.

THE juice of the cane, as it runs out of the mill, is received into a large earthen vessel, sunk in the ground; from which it is carried to the currai, or iron boiler, placed near the mill, where

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where it is boiled with a slow fire, until it attains a proper degree of consistency and purity, being scummed constantly during the first boiling. It is then taken out of the boiler, and assumes the name gour, which is of two kinds, danahdar and patlee; from the former only sugar is made; the latter is used by the natives in its rough state.

The danahdar gour, intended for sugar, when taken from the boiler, is put into large earthen jars, with the reserve of a small quantity, placed by itself in a cool place. The gour in the jars is agitated and stirred about till it begins to granulate, when the small portion in reserve having cooled more rapidly, and acquired a greater degree of consistency, is rubbed round the edges, and laid over the tops of the jars, which it is thought assists the granulation of the whole.

The patlee gour, when taken from the boiler, is thrown into small oblong pots, or moulds, cut in the ground, 18 inches long and 12 broad, and about 6 or 8 deep, lined with plantane leaves; when it cools, it becomes a hard mass, and is sold in that state for home consumption.

The donahdar gour, when cold, is now taken by the refiners, or galahdars, who first put it into a strong, close-wove hempen bag, which is bound round tight with cords, to press out the molasses or syrup that are received in a vessel placed underneath; the following day the cords are tightened, to increase the pressure, and force out the molasses, and thus it remains two days more, when the thick gour is carried to a large iron boiler; and there boiled up with water; and during the process, a small quantity of water, mixed with milk, lime and khar (leys of the ashes of plantane) is occasionally thrown in to raise the scum, which is carefully taken off as it rises: when sufficiently purified, it is removed to another boiler, and strained into it through a cloth, where, by another boiling, it attains the proper consistency. It is gradually taken out of this boiler with ladles, and put into large-mouthed earthen vessels, a little from each ladle carefully, until they are filled, or the boiler emptied. These vessels are called coondahs, and have a small aperture in the bottom, which is stopped by a plug, until the sugar cools and granulates. The liquor, when first put in the coondahs, is stirred and agitated, until a crust or grain begins to form; it is then left to settle, for the remainder of the day and night. The succeeding day and night the vessels are put on the ground in a cool shady place, and the third day are conveyed to another house, where they are placed on a platform of bamboos.

The apertures being here opened, the molasses, or syrup, drains off in pans placed underneath. In this state they remain one day and night; the ensuing, or fourth day, a coat of wet weeds is laid upon the top of each vessel, where it remains 14 or 15 days, and is then removed, when the sugar, upon which the weeds have acted, is cut up, and scraped off with a knife, so far as it appears whitened and cleaned by the virtues of the weeds, or their mositure. This weed grows in swamps, lakes and rivers, and is here called khai, or khar-puttah. The khai being laid on the sugar wet and fresh, a layer of earth is put over it, to press the water or juice out gently, that it may descend through the sugar. The first scraping is the finest and best sugar, and is called chinee awul khaut.

Another coat of weeds is then put on what remains in the vessels, and being at the end of eight days removed, the sugar that is refined is scraped off as before.

The residue is a third time covered with weeds, and after five or six days, the whole is whitened, although sometimes a fourth coating of weeds is necessary.

The sugars made from the original gour, are reckoned the finest, or first sort. Sugars of an inferior sort are made by mixing equal quantities of danahdar gour and coutrah (the syrup that runs from the vessels whilst the sugar is refining, or as it is called in Europe, claying), which mixture is boiled, and undergoes the same process as the danahdar gour. Sugars of a third quality are made from one-quarter of danahdar gour, and three-quarters of the coutrah, drained from the second sort of sugar.

Other sugars, of a fourth or very inferior quality, are made by boiling the coutrah of the third sort of sugar, and the maht, or molasses, passed from the danahdar gour, whilst in the hempen bags. The residuum of the fourth sort is made up into a kind of coarse sugar, or medium between chinee and gour, called kumah gour. Upon the whole, the process is continued while any sugar can be obtained from the drainings; and after all, the dregs and scum are sold to the natives, and consumed by them in a variety of ways.

Supposing the soil and season favourable, it is computed that a begah will yield about 15 to 20 maunds of gour of 68 sicca weight to the seer, and that one maund of gour will give 10 seers of best chinee *, or the first quality of sugar, and 28 seers of coutrah and maht. From the variety of soils in which sugar cane is planted, the great difference of the rent, the change of crops, and other circumstances, it is difficult to estimate the ryot's profit upon the cultivation of this article: it is however admitted to be more beneficial, both to the landholder and cultivator, than any other produce of the soil.

If a piece of ground be rented for the express purpose of planting sugar cane, the rent is from 3 to 4 rupees per begah on the fussel or crop. The same land, if cultivated with cotton, will pay one and a half rupee per begah; if with rice, 12 annas.

Land adapted to the culture of sugar cane, answers but for few other articles, such as moong (a kind of vetch), doosh (rice), coppass (cotton), sursoo (mustard), poost (poppy), &c. The same spot is only planted with sugar cane once in three years.

A begah of land planted with sugar cane, supposing it to produce 15 maunds of gour, and pay $3\frac{1}{2}$ rupees rent, or revenue, on the crop, is computed to yield the ryot a profit of two rupees. When the canes are cut, moong is sown, which pays no revenue, and yields a profit to the cultivator of half a rupee. After moong, coppass is sown, which pays a revenue of $1\frac{1}{2}$ rupees, and leaves a profit to the ryot of half a rupee. These three crops

* Equal to the best Lisbon sold by our grocers.

are

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are as much as is generally obtained in two years, paying as above a revenue on the sugar per begah of - - - - - - - - - S.Rs. 3 8 0
Coppass (cotton) - - - - - - - - - - - 1 8 0
S.Rs. 5 0 0

and yielding the cultivator profit per begah on sugar - - - 2 0 0
Moong - - - - - - - - - - - 0 8 0
Coppass - - - - - - - - - - - 0 8 0
S.Rs. 3 0 0

The same lands, if cultivated with any other produce, would yield, in the same space of time, a revenue of 2 to 4 rupees, and a profit to the ryot of 1½ to 2 rupees.

The quantity of sugars annually produced in these districts can only be estimated by the quantity exported from Goragaut, the great market for their sale, which is estimated as follows:

First sort, of chinee, made from dhanadar gour - - - - - -	40,000
Second sort, ditto made from gour and coutrah, in equal quantities - -	25,000
Third sort, ditto made from ¼ gour, and ¾ coutrah of the second sort - -	10,000
Mds.	75,000

Annual consumption supposed about, Mds. 3,000—Quantity annually exported, Mds. 72,000

The sugars sold at Goragaut are brought from the neighbouring districts of Raujeshy, Moorshedabad, and Dinagepour, as well as what is produced in Rungpore, and are all included under the denomination of Rungpore sugars.

The sugar mill used at Rungpore is of simple and rude construction, somewhat like the oil-mills of Calcutta. It consists of a large wooden log fixed in the ground, the upper part of which is hollowed out in the form of an inverted cone, about 2½ feet diameter at the top; at the bottom (or rather apex of the cone) there is an opening of about 10 inches diameter, below which is a globular excavation of eight inches diameter, from which the juice is conveyed by a pipe which conveys it out of the mill. In this mortar a wooden pestle is placed, corresponding in form of the bottom part nearly to the interior thereof. To this pestle, which is of considerable length, a beam is suspended horizontally by a rope from the outer end to the top of the pestle, the other end of the beam works round in a groove made on the outside of the mortar. The pestle is turned by bullocks yoked to the beam, and the rotatory motion thereof, with a weight on the end of the beam, grinds the canes to pieces, by pressing them against the sides of the mortar.

I have no estimate of the expense of cultivation; but the profit of the ryot, and the gour produced from a begah, as before stated, will give us the total charges per begah. The produce is said to be from 15 to 20 maunds of gour per begah; but, as the profit is reckoned on the crop of 15 maunds, I will assume that quantity as the average of the district, instead of the mean of 15 and 20, which would be 17½ maunds.

15 maunds of 68 sicca weight to the seer, valued at 1.4. per maund on the spot, is - - - - - - - - - - - - - - S.Rs.	18 12
Deduct ryot's profit - - - - - - - - - - - - - -	2 0
Expense of cultivation, including rent - - - - S.Rs.	16 12

15 maunds of 68 sicca weight is equal to 12 maunds 30 seers, Calcutta bazar weight, and allowing 2 maunds of gour to 1 maund of muscovado sugar, the quantity will be 6 maunds 15 seers of muscovado sugar—costs - - - - S.Rs. 16 12 0

Deduct for 6.15. maunds of shote or molasses, which will sell for about eight annas per maund - - - - - - - - - - - - 3 3 0

Costs - - - - - - - - - - - - - - S.Rs. 13 9 0

Exchange at 2*s.* 4*d.* per S.Rs. sterling £. 1 11 8

One begah of sugar cane yields 6 maunds 15 seers of muscovado sugar, equal to 4 cwt. 2 qrs. 18 lbs. which gives 14 cwt. 0 qr. 11 lbs. per acre, and costs at the rate of 6*s.* 9½ *d.* per cwt. or 4*l.* 15*s.* 9*d.* per acre.

Appendix, No. 11.

Account of some Experiments made at the Rum and Sugar Manufactory of Atchipore, to ascertain what the Produce would be from given Quantities of Jaggery, of different kinds, made into Rum and Sugar.

Distilled 50 maunds best Burdwan jaggery:
Produce.—Rum, equal in strength to London proof, 270 gallons.

Distilled 50 maunds of jaggery from Benares:
Produce.—Rum, equal in strength to London proof, 246 gallons.

Distilled 50 maunds of liquid, part of the Burdwan jaggery, being that which is allowed to strain from * the granulated part in the process of making sugar:
Produce.—Rum, equal in strength to London proof, 241 gallons.

* *N.B.*—The maund here mentioned is the Calcutta bazar maund of 80 S.Rs. per seer, equal to 82⅔ lb. avoirdupoise.

Distilled

Distilled 50 maunds Molasses:
Produce.—Rum, equal in strength to London proof, 235 gallons.

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SUGAR.

No. 1. Boiled 7 maunds, 24 seers dry Burdwan jaggery, called by the natives dootoah.

Produce.	Md.	Sr.		
Scum	1	0		
Molasses	3	15		
Sugar, of a very fine quality	2	39		
			7	14
Loss of weight in boiling			0	14
		Mds.	7	28
Excess in weight, being the water that strains from the clay, and mixes with the molasses			0	4
Original Weight		Mds.	7	24

As 7 maunds 24 seers of dooloah is to 2 maunds 39 seers of sugar, so is 100 ditto to 39. 5. 12 $\frac{192}{304}$ ditto.

No. 2. Boiled 10 maunds of the best Burdwan jaggery:

Produce.	Mds.	Sr.	Ch.			
Scum	1	10	0			
Molasses strained from the sugar before laying on the clay	3	25	0			
Ditto after claying	1	37	0			
Sugar of a very good quality	2	36	8			
				9	28	8
Loss of weight in boiling				0	11	8
Original weight			Mds.	10	0	0

As 10 maunds of best Burdwan jaggery is to 2 maunds 36 sicca 8 ch. of sugar, so is 100 maunds ditto to 29 maunds 11 seers 13 $\frac{56}{64}$ ditto.

No. 3. Boiled 15 mds. 31 seers of Burdwan jaggery, inferior in quality:

Produce.	Mds.	Sr.	Ch.			
Scum	2	18	8			
Molasses before claying	5	11	8			
Ditto - after - ditto	3	22	0			
Sugar tolerable quality	4	0	0			
				15	0	
Loss in boiling				0	19	0
Original weight			Mds.	15	31	0

As 15. 31. of inferior Burdwan jaggery is to 4 mds. of sugar, so is 100 ditto ditto to 25. 14. 4 $\frac{131}{631}$ ditto.

No. 4. Boiled 6 mds. 5 seers Berbhoom jaggery, of an ordinary quality:

Produce.	Mds.	Sr.	Ch.			
Scum and other refuse	1	25	8			
Molasses before claying	1	28	8			
Ditto - after - ditto	1	10	0			
Sugar of a good quality	1	15	8			
				5	39	8
Loss of weight boiling				0	5	8
Original weight			Mds.	6	5	0

As 6 mds. 5 seers of ordinary Berbhoom jaggery is to 1 md. 15 seers 8 ch. of sugar, so is 100 ditto ditto to 22. 26. 1 $\frac{48}{392}$ ditto.

No. 5. Boiled ten maunds Midnapore jaggery:

Produce.	Mds.	Sr.	Ch.			
Scum	1	39	0			
Molasses before claying	2	30	0			
Ditto after ditto	2	0	0			
Sugar	3	0	0			
				9	29	0
Loss in boiling				0	11	0
Original weight			Mds.	10	0	0

As 10 maunds of Midnapore jaggery is to 3 maunds of sugar, so is 100 ditto ditto to 30 ditto ditto.

The sugar from the Midnapore jaggery is something more in quantity, and (though not whiter) better in quality than that which any of the other experiments have given, the grain being very large.

Several experiments were made on the jaggery from Benares, but none of them succeeded in procuring sugar from it: it could not be brought to *granulate*, and consequently not to discharge

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discharge its molasses. The jaggery though very thick (having been brought to Calcutta in bags) was remarkably small in the grain.

N. B. In my letter of the 8th September 1790, I stated the proportion of clayed sugar obtained from Burdwan jaggery, as 4 to 10; I should have mentioned that the jaggery made use of, had been previously drained, or what is called dry jaggery, and nearly of the same quality as No. 1 of the foregoing experiments.

Appendix, No. 12.

Account of the Process in making Rum and Sugar at the Atchipore Manufactory.

RUM :—The stills at this manufactory being on the usual construction, need no description.

The jaggery, or molasses (as either may occasionally be distilled) being weighed, is put into large vats, which contain about 800 gallons. To one part of jaggery or molasses is put from two to three parts of the residuum of the former distilling, called in the West-Indies *dunder*; to this is added from four to six parts of water, according to the quality of the jaggery or molasses. The whole being well mixed, is left to ferment, which requires more or less time, according to the temperature of the air. In general the fermentation will be at the highest in about ten days. The fermented liquor, or *wash*, is then conveyed to stills. About one-fourth of the first running is found sufficiently strong not to require being passed through the stills a second time; what afterwards runs off (the low wines) is redistilled, till the whole is brought to nearly one degree of strength. The rum is then removed to large vats of about 1200 gallons each, where it is kept till sold.

SUGAR :—The proprietors of Atchipore not cultivating the sugar cane, purchase from the natives sugar in a crude state, called jaggery or gour, which is the juice of the cane, thickened by boiling, with addition of an alkali, chiefly wood ashes. In the process, the natives take off no part of the scum, or other refuse, consequently this article is received from them in a very impure state. To extract from, and refine the sugar of which, the process is as follows:

The jaggery is first drained of its liquid part, which is seldom less than one-half (and turns to most advantage by distilling into rum); it is then carried to the boiling house, in which the coppers are, in sets of two, the largest containing about 14, and the smallest 12 maunds. The strained jaggery is first put into the largest copper, that is, about 10 maunds of the jaggery is at once put into the copper, to which is added about 3 maunds of pure water. A moderate fire is then applied to this copper, which soon dissolves the jaggery. When the liquor acquires nearly a boiling heat, it throws up a very thick scum, which being removed by a large copper skimmer, a quantity of milk and water, with the addition of some lime water, or quick lime, is thrown in, which causes more scum to rise, and which being taken off, smaller quantities of milk and water continue to be thrown into the boiler, as long as any scum will rise, that is, till the liquor, which had a very dark and muddy appearance, becomes pure and transparent. It is proper to observe, that the liquor, while in this copper, is never allowed to come entirely to the boil, as that would tend to make the scum mix again with th sugar.

After being sufficiently clarified, the liquor is strained through a coarse cloth, and thrown into the small boiler, to which a brisk fire is put, and continued, until, judging from appearance that the water is all evaporated, and the sugar sufficiently boiled, it is removed to a cooler, in which it is gently stirred for some time, to hasten the cooling, and assist the granulation. When it begins to form into a thick mass it is taken from the cooler, and put into earthen pots of a conical form, and size sufficient to contain about 1 ½ maund, or 120 lbs. These pots have a small aperture at the bottom, through which the molasses are to drain; this, however, is not opened until the sugar has been two or three days in the pots, when the granulation is complete. The aperture being then opened, drains off the molasses, which are seldom less in weight than one-third of all that was in the pot. The molasses being entirely drained from the sugar, that is all that will run before the clay is applied;—a quantity of pure clay, taken from the bed of the river, is then well macerated with about one-third of its weight of water, when the sugar having been pressed down, and its surface made even, the clay so prepared is laid upon it to the thickness of two inches, the water contained in the clay filtering gently through the mass of sugar, carries down the coloured particles, and, if I may use the expression, *bleaches* the sugar; the clay is then allowed to remain upon the sugar until it becomes a dry cake, when it is taken off, and the sugar cut up so far as the clay appears to have sufficiently acted upon it. A fresh covering of clay is then laid on what remains, and this is generally found sufficient to whiten all that is left in the pot. In this (the claying) about half the weight drains away. The sugar is then spread in the sun, and, after being thoroughly dried, is packed in chests for sale.

The time required for the whole process from beginning to strain the jaggery until the sugar is packed in chests, is seldom less than two months.

There is from one-half to three-quarters of a seer of fresh milk allowed to the maund of jaggery in refining, and this is found to have the same effect, or nearly so, as the blood, eggs, and other ingredients, used in Europe for the same purpose.

The workmen in this manufactory, being Hindoos, could not be prevailed upon to use blood. It may be necessary to observe, that, although the European method of refining with clay, instead of the Bengally practice, where wet grass or weeds is used, has been preferred at this manufactory; yet it does not appear that the results are materially different, either in quality or quantity. The advantage which the former process seems to possess over the latter, is some little saving of time and labour. Two coats of clay will usually refine a pot of sugar, whereas it requires four coats of wet grass or weeds.

EXTRACTS *from* REMARKS *on the* HUSBANDRY *and internal* COMMERCE *of* BENGAL. 1806.

Remarks on Husbandry and Commerce of Bengal.

Sugar and indigo are common to the whole champaign of Bengal.

It may be proper to notice fully such productions of the soil as are the chief objects of the merchant's attention in Bengal.

The valuable articles of sugar, tobacco, silk, cotton, indigo, and opium, being the principal dependence of the peasant for the supply of conveniences and for accession of wealth, are well deserving of particular consideration. Deriving a farther importance as they are the objects of external commerce, each would separately merit the amplest detail, both in regard to the present management of them, and to the traffic which is carried on. But, precluded from undertaking the disquisition in the whole extent which the subject embraces, we may be contented with hazarding on each topic such observations as seem most material.

Excepting tobacco, which is exotic in India, this fruitful region seems to have been the parent country of most productions which were once ranked among luxuries, but which are now become necessaries of life. The sugar-cane, whose very name was scarcely known by the ancient inhabitants of Europe, grew luxuriantly throughout Bengal* in the remotest times. From India it was introduced into Arabia, and thence into Europe and Africa. It is said by some authors to have been indigenous in America; this opinion might perhaps be disputed, for historical facts seem to contradict it. Certain it is, that the cane was carried in the year 1506 from the Canaries to St. Domingo, where the first sugar-work was soon after erected by an enterprizing Spaniard. The cultivation was pursued with such success in the islands and on the continent of South America, that the produce soon undersold the sugar of other countries; and the importation of it from India, which was shortly afterwards discontinued by the Portuguese, has only lately been revived.

A sudden rise in the price of sugar in Great Britain, partly caused by a failure in the crops of the West-Indies, and partly by the increasing consumption of this article throughout Europe, was felt as a serious evil by the British nation. Their eyes were turned for relief towards Bengal, and not in vain. An immediate supply was obtained from this country, and the exportation of sugar from Bengal to Europe, which had commenced a few years earlier, still continues, and will, it is hoped, be annually increased to meet the growing demand for it, and to benefit, in common with the West-India islands, by the advanced price which it bears in the markets of Europe.

From Benares to Rengpur, from the borders of Asam to those of Catac, there is scarcely a district in Bengal or its dependent provinces wherein the sugar-cane does not flourish. It thrives most especially in the provinces of Benares, Behar, Rengpur, Birbhum, Birdwan, and Mednepur; it is successfully cultivated in all, and there seem to be no other bounds to the possible production of sugar in Bengal, than the limits of the demand and consequent vend of it. The growth for home consumption and for the inland trade is vast, and it only needs encouragement to equal the demand of Europe also.

It is cheaply produced and frugally manufactured. Raw sugar, prepared in a mode peculiar to India, but analogous to the process of making muscovado, costs less than five shillngs sterling per hundred-weight. An equal quantity of muscovado sugar might be here made at little more than this cost, whereas in the British West-Indies it cannot be afforded for six times that price. So great a disproportion will cease to appear surprising, when the relative circumstances of the two countries shall have been duly weighed and impartially considered. Agriculture is here conducted with most frugal simplicity. The necessaries

* Gaur, the ancient name of the capital of Bengal, and of the province itself, is apparently derived from Gur, which, both in the ancient and modern languages of India, signifies raw sugar. From the Sanscrit term for manufactured sugar (sarcará) are derived the Persian, Greek, Latin, and modern European names of the cane and its produce. Even the Arabic term may be also deduced from another Sanscrit word (c'hand), which bears the same signification.

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necessaries of life are cheaper in India than in any other commercial country, and cheaper in Bengal than in any other province of India. The simplest diet and most scanty clothing suffice to the peasant, and the price of labour is consequently low. Every implement used in tillage is proportionably cheap, and cattle are neither dear to the purchaser nor expensive to the owner. The preparation of sugar is equally simple and devoid of expense. The manufacturer is unencumbered with costly works. His dwelling is a straw hut; his machinery and utensils consist of a mill, constructed on the simplest plan, and a few earthen pots. In short, he requires little capital, and is fully rewarded with an inconsiderable advance on the first value of the cane.

The same advantages do not exist in the West-Indies. It is worthy of observation, that the labour of the negro constitutes more than three-fifths of the cost of sugar in Jamaica. So that, if the West-Indian planter were even able to substitute straw huts for his expensive buildings, or simple implements and earthen vessels for his intricate machinery and costly apparatus, still the price of labour would be an insuperable bar to a successful competition. Independently of calculation and comparison, it is obvious, that the labour of a slave must be much dearer than that of a free man, since the original purchase will always form a heavy charge, from which hired labour is exempt. Moreover, the West-Indian slave has no incentive for exertion; nor can he be roused to it by the smart of recent chastisement, or the dread of impending punishment.

Slavery is not unknown in Bengal. Throughout some districts, the labours of husbandry are executed chiefly by bond-servants. In certain provinces, the ploughmen are mostly slaves of the peasants for whom they labour; but, treated by their masters more like hereditary servants, or like emancipated hinds, than like purchased slaves, they labour with cheerful diligence and unforced zeal.

In some places, also, the landholders have a claim to the servitude of thousands among the inhabitants of their estates. This claim, which is seldom enforced, and which in many instances is become wholly obsolete, is founded on some traditional rights acquired many generations ago, in a state of society different from the present: and slaves of this description do in fact enjoy every privilege of a free man except the name; or, at the worst, they must be considered as villeins attached to the glebe, rather than as bondsmen labouring for the sole benefit of their owners. Indeed, throughout India, the relation of master and slave appears to impose the duty of protection and cherishment on the master, as much as that of fidelity and obedience on the slave, and their mutual conduct is consistent with the sense of such an obligation, since it is marked with gentleness and indulgence on the one side, and with zeal and loyalty on the other.

Though we admit the fact, that slaves may be found in Bengal among the labourers in husbandry, yet in most provinces none but freemen are occupied in the business of agriculture.

The price of their daily labour, when paid in money, may be justly estimated at little more than one ana sica, being less than twopence sterling. In cities and large towns the hire of a day labourer is, indeed, greater, because provisions are there dearer, and the separation of the man from his family renders larger earnings necessary to their support; but even in the neighbourhood of Calcutta, men may be hired for field labour at the rate of two rupiyas and a half per mensem, which is equivalent to twopence-halfpenny per diem. Compare this with the price of labour in the West-Indies, or compare with it the still cheaper hire of labour by a payment in kind, a mode which is customary throughout Bengal (the allowance of grain usually made to strong labourers cannot be valued at more than one ana, and does in reality cost the husbandman much less), the average would scarcely exceed a penny halfpenny. In short, viewed in every way, labour is six times, perhaps ten times dearer in the West-Indies than in Bengal.

In the warmth of controversy, some advocates for the West-Indian islands averred the general imbecility of the natives of these provinces, and their deficiency in toil and exertion. This objection does not require a formal refutation; we need only refer those who entertain doubts on this subject to the numerous

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numerous and beautiful manufactures of Bengal, and to the daily proofs which its inhabitants give of patient labour and imitative genius. In other pleas brought forward by those who contend for the right of the West-Indian merchants to the monopoly of sugar, Bengal seems to be by them considered as a foreign and tributary country, whose industry should be suppressed and discouraged, if it by any means clash with the interest of particular colonies. But this can no longer be considered as a mere subjugated country, from which Great Britain draws a precarious and temporary tribute. It is now intimately connected, and ought to be firmly incorporated with the empire, of which it forms a considerable branch, and to the support of which it largely contributes. The Government of that empire has as obvious an interest in promoting its prosperity, as in studying the welfare of other provinces subject to Great Britain.

Convinced, as they doubtless are, that England may receive sugar from Bengal without any real injury to the West-Indian islands, the Government will surely tolerate, and even encourage, the importation of it from Bengal. For this purpose, it is only necessary to equalize the duties, and permit the sugar to be conveyed on private shipping. The effects of such an equitable arrangement may be made evident, by computing the cost of sugar shipped in Bengal, and the rate at which it might be delivered by the British merchant to the English consumer. We shall obviate the possibility of any objection to the grounds of this calculation, by assuming the price actually paid in Calcutta for the best clayed sugar, instead of the estimated rate at which muscovado could be afforded. It would not be unreasonable, in estimating the future cost of sugar on the supposition of a regular and extensive demand, to make a suitable deduction for greater cheapness, in consequence of more universal cultivation; since the manufacturer and merchant, dealing more largely, would be contented with smaller profits on quicker returns. Great improvement, too, may be expected in the manufacture of it; but although this be sufficiently probable, it may be more satisfactory to ground the present estimate on the price paid in Calcutta, previously to the great enhancement caused by the late extraordinary demand.

On a retrospect to the period when the cultivation and manufacture kept pace with the wants of the market, we may justly state the average cost of the best clayed sugar in Calcutta at six sica rupiyas for the factory maund.* At this rate a cargo of five hundred tons, imported in London, should cost the English merchant less than 36*s.* a cwt. exclusive of duties and charges in England.

15,000 factory maunds at 6 sicca rupees ...	S.Rs. 90,000	0	
Export duties and fees	S.Rs. 2,362	8	
Packing, porterage, and boat-hire	5,418	12	
Commission on S.Rs. 90,000 at 5 per centum	4,50	0	
	12,281	4	
	S. Rs. 1,02,281	4 or	£11,864 12
Freight, at £6 per ton			3,000 0
Insurance on the outlay at 10 per centum			1,186 9
Interest on the same at 5 per centum, for a year			620 10
			£16,703 11
Duty on 475 tons at 15*s.* as is paid on West-India sugar	7,125	0	
Charges of merchandize, &c. as reckoned by the India Company, at 3 per centum on the value	997	10	
			8,122 10
			£24,826 1
Deduct from the quantity originally shipped 5 per centum for wastage and uncovered risks, the remaining 475 tons will produce at 70*s.* the cwt.			33,250 0
Profit			£8,423 19

* We take a much higher rate than the average of many years would suggest, to avoid any cavils against our estimate. Sugar might probably be shipped for less than six rupiyas per mán.

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Compare herewith an estimate grounded on the present rates of freight and customs:

500 tons of clayed sugar shipped in Calcutta for		£11,864 12
Freight at £15 per ton		7,500 0
Insurance on the outlay at 10 per centum		1,186 9
Interest on the same at 5 per centum for a year		652 10
		£21,203 11
Duty on 475 tons of sugar, at £37. 16s. 3d. per centum, ad valorem, as is now paid on East-Indian sugar	12,572 13	
Charges of merchandize, &c.	992 10	
		13,570 3
		34,773 14
Amount of the sales		33,250 0
Loss		£1,523 14

Hence it is evident, that the exporter from Bengal, so long as he must pay £22. 10s. or even £15 per ton for freight, and £37. 16s. 3d. per centum ad valorem for duties of custom,* can resort to the English market then only when sugar sells for more than eighty shillings the cwt. including duties; but if he were at liberty to provide freight on the lowest terms for which he could obtain it, and if duties were equalized, he might derive profit by selling clayed sugar for sixty shillings the cwt., and muscovado for much less. Hitherto the very enhanced price of sugar in England has encouraged the importation of it from Bengal, in spite of unequal duties and excessive freight. Remove these disadvantages, and Bengal will supply Great Britain at a cheap rate, with a part of what the calls of the English market require, and will thereby prevent the exaction of an inordinate profit on the sugar produced in the West-Indies.

EXTRACTS *from Mr.* HENCHMAN'S OBSERVATIONS *on the* REPORTS *of the* DIRECTORS *of the* EAST-INDIA COMPANY, *respecting the Trade between India and Europe.* 1801.

Henchman's Observations on Directors' Reports.

SUGAR is a natural production of Bengal, and being from the earliest times in general use, has for ages been cultivated in very large quantities. It was formerly an article of export trade, and by the activity of individuals, aided by the support and assistance of the Company, it has been rendered so again, and will, if it is politically right to allow it, be an article of great consideration between the East-Indies and the port of London, to be again exported for foreign consumption. One very important point in deciding upon this subject is, to recollect the situation of all foreign Europeans and Americans in India. They are at liberty to bring any articles from the East-Indies that may be beneficial: if, therefore, sugar should, for any reasons, be prohibited to be brought on British ships, they will bring it in foreign ships, whenever they find an advantage in doing so, for the supply of any part of the world, England excepted.

Too great a stress is also laid, in this part of the Report, on the advantages which the Company possess over private persons, in their attempts to introduce new articles or extend the provision of them, by reason of their numerous establishments already existing. Let us refer to the articles of indigo and sugar; these are of the highest consideration, and if the Company were to undertake the manufacture of either one or the other, they have not any establishment that would give them an advantage over private merchants, except it is their sovereign power; and that cannot be exercised, either in justice to the people, or consistently with a due consideration of its influence upon

* The duties are paid in England by the purchaser, but the charge in effect falls upon the importer.

upon the revenue. Possibly they may at times have purchased their sugar-canes as soon as cut, or the juice as soon as expressed; in such cases they would have mills and boiling-houses to erect, while the private merchant, if he were wise, would only buy the sugar from the native in a state fit for exportation, and those natives are not so deficient in common sense as not to prepare it in that manner, which they might learn would give them a better price and readier sale. Besides which, the Company come into the market in India with an influence and effect always injurious to trade,* their demands are never in a limited degree; it follows that the price of any article they trade in rises immoderately, if their power is not exerted; whereas the private merchant buys only by slow degrees, governed in his purchases by the state of the market, and if he employs native agents in the interior of the country, it is at a charge so very easy, that the Company have no advantage over him from their commercial residents in the provinces, except what arises, as has been said already, from their influence and power.

Henchman's Observations on Directors' Reports.

On this subject Lord Wellesley says, "In the first purchases of sugar and "other gruff goods, the trade of the private merchant has more nearly reached "that of the Company; nor will the Company ever be able to trade advan-"tageously in these articles, unless the Government in India shall resort to "ships built in India for the conveyance of such goods."

Mr. BOTHAM'S OBSERVATIONS *on the Mode of cultivating a* SUGAR PLANTATION *in the* EAST-INDIES, *&c.*

(From his Evidence concerning the Slave Trade.)

Botham on East-India Sugar Plantation.

HAVINGbee n two years in the English and French West-India Islands, and since conducted sugar estates in the East-Indies, it may be desirable to know that sugar, better and cheaper than that in our islands, and also arrack, are produced in the East-Indies, by the labour of free people.

China, Bengal, and the Coast of Malabar,† produce quantities of sugar and spirits; but as the most considerable sugar estates are near Batavia, I shall explain the improved mode of conducting those estates. The proprietor is generally a rich Dutchman, who has built on it substantial works; he lets the estate (say of 300 or more acres) to a Chinese, who lives on, and superintends it, and who relets it to free men, in parcels of fifty or sixty acres, on condition that they shall plant it in canes, for so much for every pecul, 133½ lbs.‡ of sugar produced. The superintendant collects people from the adjacent villages, to take off his crop. One set of task-men, with their carts and buffaloes, cut the canes, carry them to the mill, and grind them; a second set boil them; a third clay and basket them for market, at so much per pecul: thus the renter knows with certainty what every pecul will cost him. He has no unnecessary expense, for when the crop is over, the task-men go home; and for seven months in the year there only remain on the estate the cane-planters, preparing the next crop. By dividing the labour, it is cheaper and better done. Only clayed sugars are made at Batavia, which are equal to the best from the West-Indies, and sold at 18*s.* per pecul; the Shabander exacts a dollar per pecul on all sugar exported. The price of common labour is from 9*d.* to 10*d.* per day; but the task-men gain considerably more, not only from extra work, but from being considered artists in their several branches. They do not make spirits on the sugar estates; the molasses and skimmings are sent for sale

* Lord Cornwallis says, Nov. 1, 1788, "The manufacturers shew a great inclination to quit "the Company's employ; thus circumstanced, you will judge that it must be impossible for your "servants to follow lite ally the orders frequently received from you, not to increase the prices "of the goods." Mr. Bebb says, Nov. 17, 1788, "The manufacturer prefers the employment "of the private agent to that of the Company."

† Mr. Botham appears to be under a mistake in reporting the Malabar Coast to produce quantities of sugar. I conceive he was misled by supposing the Goa arrack to be a distillation from sugar: it is only distilled from toddy, which is well known to be drawn from every species of the palm tree I cannot say, positively, whether the toddy used at Goa for distilling arrack is only from the cocoa-nut tree, or also from the palmeria tree.—*Dalrymple.*

‡ A pecul is 133⅓ lb. avoirdupois.

Botham on East-India Sugar Plantation.

sale to Batavia, where one distillery may buy the produce of one hundred estates. Here is a vast saving in making spirits; not as in the West-Indies, a distillery for each estate. Arrack is sold at Batavia at about 8*d.* per gallon; the proof of the spirit is about five-tenths.

After spending about two years in the West-Indies, I returned to the East in 1776, and in the last war conducted sugar-works at Bencoolen, in Sumatra, on nearly the same principles as the Dutch: I confined my expenses to what they had done, allowing for the unavoidable charges on a new and sole undertaking.

The cane is cultivated to the utmost perfection at Batavia. The hoe, almost the sole implement of the West, is there scarcely used; the lands are well ploughed by a light plough with a single buffalo, a drill is then ploughed, and a person with two baskets filled with cane plants, suspended to a stick across his shoulders, drops into the furrow plants alternately from each basket, covering them at the same time with earth with his feet. Young canes are kept often ploughed, as a weeding, and the hoe is used to weed round the plant when very young; but of this there is little need if the land has been sufficiently ploughed. When the cane is ready to earth up, the space between the rows is ploughed deep, the cane tops tied up, and an instrument like a shovel, with teeth at the bottom, a spade handle, and two cords fixed to the body of the shovel, ending by a wooden handle for a purchase, is used by two persons to earth up the cane, the strongest holding the handle of the shovel, pressing it into the ploughed earth, while the other, on the opposite side of the plant, by a jerk of the cord draws up to the plant all the earth that the plough had loosened. Two persons, with this instrument, will earth up more canes in the day than ten negroes with hoes. The canes in India are much higher earthed than in the West-Indies; in moist soils they, with little labour, earth them as high as the knee, at once making a dry bed for the cane and a drain for the water.

The improvement in making the cane into sugar at Batavia keeps pace with that in its culture. Evaporation being in proportion to the surface, their boilers have as much of it as possible. The cane-juice is tempered and boiled to a syrup, it is then thrown into vats which hold one boiling, then sprinkled with water to subside its foul parts: after standing six hours it is let off by three pegs of different heights into a copper with one fire; it is there tempered again, and reduced to sugar by a gentle fire; it granulates, and the boiler dipping a wand into the copper strikes it on the side, then drops the sugar remaining on it into a cup of water, scrapes it up with his thumb-nail, and can judge to a nicety of the sugar's being properly boiled. The vats I mentioned are placed all at the left end of a set of coppers. After running off for boiling all that is clear, the rest is strained on the outside of the boiling-house; what is fine is put into the copper for sugar, the lees kept for distilling.

Claying of sugar is as in the West-Indies. The cane trash is not, as in our islands, carried into sheds, where it loses much of its strength before it is used, but is laid out immediately to dry, then made into faggots, set up in cocks, and used immediately when dry; hence its force of fire is much greater, and the carrying it to and from the trash-house is saved.

The culture of the cane in the West-Indies is in its infancy. Many alterations are to be made, expenses and human labour lessened; the hoe now used to turn up soils of different textures is of one construction, cheap and very light, so that the negro, without any help from its weight, digs up the earth (and the cane roots, on replanting) by the severest exertion. In the East we plough up the cane roots.

Having experienced the difference of labourers for profit and labourers from force, I can assert, that the savings by the former are very considerable.

The West-India planter, for his own interest, should give more labour to beast and less to man; a larger portion of his estate ought to be in pasture; when practicable, canes should be carried to the mill, and cane tops and grass to the stock, in waggons; the custom of making a hard-worked negro get a bundle of grass twice a day, abolished; and, in short, a total change take place

Botham on East-India Sugar Plantation.

place in the miserable management in our West-India islands. By this means following, as near as possible, the East-India mode, consolidating the distilleries, I do suppose our sugar-islands might be better worked than they now are, by two-thirds, or indeed one-half of the present force. Let it be considered how much labour is lost by the persons overseeing the forced labourer, which is saved when he works for his own profit. I have stated, with the strictest veracity, a plain matter of fact; that sugar estates can be worked cheaper by free persons than slaves.

EXTRACTS *from* VOYAGES *to the* EAST INDIES *by* J. S. STAVORINUS, *Rear Admiral in the Service of the States-General, in* 1768 *to* 1771.

Stavorinus' Voyages to the East-Indies.

We likewise observed the manner in which the inhabitants make their sugar, which is very simple, the whole process going on in the open air without much trouble.

They bruise the cane between two chamfered rollers of hard wood, two feet and a half long, and of about six inches in diameter; these lie horizontally one above the other in two rests, so fixed that the rollers cannot be moved out of their relative position to each other, and leaving a space of a quarter of an inch between them. Each roller has four spokes or handles at the end, by which they are turned in opposite directions by two men. The sugar-cane being put between the rollers is thus bruised or flattened to the thickness of a quarter of an inch, and its sap is pressed out and received in a large earthen pot, placed for that purpose under this simple machinery. About eight or ten feet off are eight other pots, fixed in holes, into which they fit exactly, and which are made in the earth in a longitudinal direction. The dried canes, from which the sap has been expressed are used as fuel under these pots, into which the sap is put and boiled into sugar.

Sugar is likewise an article which is produced in large quantities in Java, and brought to Batavia. The quantity of thirteen millions of pounds manufactured in the year 1768, in the province of Jaccatra alone, is sufficient to show with what luxuriance the sugar-cane flourishes here. Much of it is exported to the west of India, to Surat, and the Coast of Malabar, and the rest to Europe. Most of the sugar-mills are kept and worked by Chinese.

Sugar is a third article, and by far the chief produce of the province of Jaccatra: and although Cheribon and the north-east coast of Java annually produce considerable quantities of it, they cannot rival Jaccatra in this respect; and no wonder, for the culture of it was early cherished by the higher powers in Jaccatra. The cultivators of the sugar-cane enjoy many exemptions in point of pecuniary imposts, and they have been encouraged by every means, not only by the Government of Batavia, for to this there might have been particular motives, but likewise upon positive orders from the Chamber of Seventeen in Holland, under date the 20th of June 1710.

On the other hand, the cultivation and manufacture of sugar has never been prosecuted with vigour, or suitably encouraged on the north-east coast of Java. The various plans of improvement, in this respect, which have been suggested, have never been made any use of; and the last which was presented to the Governor General Vander Parra, in the year 1774, by the resident of Japara, Mr. Vander Beke, and which contained many very good things, was never taken any notice of. Nay, so far from any encouragement being held out, the importation of sugar at Batavia from the north-east coast of Java has been as good as interdicted to private merchants, by a heavy duty of one rupee per picol, which was solely laid upon it in order to favour the sugar-mills in the province of Jaccatra and the Preanger lands; and thus the discountenancing of the manufacture of sugar in the other parts of Java, is probably the cause why the common Java sugar has never attained to be equal in quality to that of Jaccatra, the latter being much more substantial and better granulated.

Stavorinus' Voyages to the East-Indies.

In the year 1710 there were one hundred and thirty-one sugar-mills in Jaccatra. Their number, however, decreased considerably before, during, and after the war of Java, so that at the end of December 1750 there were no more than seventy-seven left, of which only sixty-six were in a condition to work; these, with seven in the kingdom of Bantam, eight in that of Cheribon, and thirteen in the province of Java's north-east coast, made the number of sugar-mills existing at that time in the whole Island of Java, one hundred and five. But at present, 1777, there are still considerably fewer.

Mr. Mossel has made a calculation what profit these seventy-seven sugar-mills in the province of Jaccatra might annually yield to their proprietors or lessees. He reckoned that a yearly quantity of ten millions pounds weight of sugar might be produced by them, which he took at four rix-dollars per picol, is .....Rix Dol. 320,000
And an equal quantity of molasses, from which afterwards, either an inferior sugar is made or arrack distilled, at one rix dollar per picol 80,000

Together, Rix Dollars 400,000*

The whole may be more amply seen by referring to his observations on the sugar-works in the neighbourhood of Batavia, &c. dated the 31st of December 1750.

The sugar-cane, which in general grows here very luxuriantly, is planted from September to April, and stands twelve or fifteen months in the field, according as the land be rich or poor, before it is cut. If the soil be good and adapted to its cultivation, it can be cut four times; on some grounds less often, and on others only once.

The sugar-works here are not near so well or so solidly constructed as those which I have seen in the West-Indies. The cane is here bruised between two rollers, and is therefore twice put through before all the juice is expressed; the sugar-mills in the West-Indies have three rollers, so that the same quantity of cane can be squeezed in half the time that is taken for it here: the latter mode, however, requires a proportional greater degree of strength; one or two buffaloes are here sufficient, but four horses are at least required there for turning the mills.

The juice is twice boiled and afterwards put into pots, upon which a layer of clay, diluted with water and kneaded into a paste, is laid, and it continues in this state for about twenty days, during which time the clay is once or twice renewed; and by this operation the sugar acquires a tolerable degree of whiteness: it is then set in the drying place, which is a shed covered with attaps, where it remains until it is perfectly dry, and the molasses have entirely trickled out of it, through an opening at the bottom.

When a sugar-mill is in good condition and has no want of work-people or of buffaloes, about fifteen thousand canes can be bruised every four-and-twenty hours: these yield from nine to eleven pots, containing each fifty pounds weight of sugar of the first and second qualities, twelve pounds of the third quality, and from sixteen to twenty pounds of molasses.†

Mr. Mossel calculated that all the canes which the sixty-seven sugar-mills annually consumed covered four thousand six hundred morgen (9,200 acres) of land, to which adding the same quantity of four thousand six hundred morgen for pasture ground for the buffaloes, and ten thousand morgen for wood for fuel, the whole extent of ground wanted for the prosecution of that manufacture, with that number of mills, would not amount to twenty thousand morgen (40,000

* Upwards of £87,000 sterling, or nearly £1,200 for each sugar-mill.—T.

† Many attempts have been made by the English at Bencoolen, to bring to perfection the manufacture of sugar and arrack from the canes abounding on the coast of Sumatra, but the expenses, particularly of the slaves, were always found to exceed the advantages. When one time, however, the plantations and works were committed to the management of Mr Henry Botham, it manifestly appeared that the end was to be obtained by employing the Chinese in the works of the field, and allowing them a proportion of the produce for their labour. The manufacture had arrived at a considerable extent, when the breaking out of the last war gave a check to its progress: but the path is pointed out, and is worth pursuing with vigour. The sums of money thrown into Batavia for arrack and sugar have been immense.—T.

40,000 acres), which is but a small part of the province of Jaccatra north of the mountains.

Stavorinus' Voyages to the East-Indies.

The first quality of the sugar differs only from the second and third by its greater whiteness. The first sort is that which is alone sent to Europe: the second goes chiefly to the western parts of India; and the third, which is the brownest, to Japan. There is likewise another sort, which is very brown and much less dry; it is called dispens-sugar, because it is mostly delivered by the purveyors, from the provision-warehouses of the Company, to be used on board of their ships.

EXTRACT *from* SIR GEORGE STAUNTON'S ACCOUNT *of* LORD MACARTNEY'S EMBASSY *to* CHINA, 1793.

Manufacture of Sugar in COCHIN CHINA.

Staunton's Account of Lord Macartney's Embassy.

IN purifying sugar, after the gross syrup had been drained from it and it was become already granulated and solid, they sometimes placed it in layers, about one inch in thickness and ten in breadth, under layers of equal dimensions of the herbaceous trunk of the plantain tree; the watery juices exuding from which, and filtrating through the sugar, carried down with them all the dross which had been boiled up with it, leaving the pure sugar, crystallized and white. It was then very light, and almost as porous as a honeycomb. When dissolved it left no sediment at bottom. This method appears certainly to be an improvement on the usual mode, elsewhere, which consists in pouring the sugar as soon as granulated into vessels of the form of inverted cones, and placing a layer of wet earth upon the upper surface of the sugar. That upper surface is thus indeed much purified, but never so perfectly as in the Cochin-Chinese method. The grain of the sugar is more broken, and the inverted point of the loaf always retains more dross than does its base, to which the filtrating liquid had been more immediately applied. It is not very probable that the management of the sugar-cane, and its juices, by the Cochin-Chinese, is much more tedious, difficult, or expensive, than what is pursued elsewhere; because the sugar made by them, and brought to the open market-places in the neighbourhood of the manufacture, was sold at prices considerably inferior to what are demanded in any other part of the world where that commodity is produced.

The coast of Cochin-China abounds with navigable rivers: in settled times several hundred junks, from forty to one hundred and fifty tons burthen, from the different ports of China, frequent the ports of Cochin-China, to procure cargoes, chiefly of areca-nut and sugar, the last article alone equalling annually about forty thousand tons.

Cultivation of Sugar in CHINA.

The valleys along the river Chen-tang-chaung were cultivated chiefly in sugar-canes, then almost ripe, and about eight feet high. Those canes were then about a year's growth; and being longer jointed, with an equal diameter, contained probably more juice than those of the West-Indies. The joints of the former were generally about six inches in length, those of the latter seldom more than four. The cane plantations in China, belonging to individuals, were of very little extent, and the expense of erecting sugar-mills too heavy to have one upon each plantation. The business of extracting the juice of the cane, and of boiling it into sugar, is, there, a separate undertaking from that of him who cultivated the plant. The boilers of sugar travel about the country with a small apparatus sufficient for their purpose, but which a West-India planter would consider as inefficacious and contemptible. It is not a matter of great difficulty to travel with this apparatus, as there are few plantations of which some part is not accessible by water-carriage. A few bamboo poles and mats are deemed sufficient for a temporary building; within which, at one end, is fixed a large iron cauldron, with a fire-place and flue, and about the middle a pair of cylinders or rollers, fitted vertically in a frame. These are sometimes of hard wood, and frequently of stone. When of the former, about six or eight

Staunton's Account of Lord Macartney's Embassy.

eight inches of the upper extremities are cut into oblique cogs, which work into each other; and if of the latter, wooden collars, with teeth in them, are fastened round the upper extremities of the stones. Upon the top of the axis of one of the cylinders prolonged above the frame, are fixed two shafts or levers, curved in such a manner as to clear the frame in turning round the rollers; and to the end of these shafts are yoked two buffaloes, who moving round as in a common cattle-mill, press the canes between the cylinders, and express their juice, which is conveyed through a tube into the cauldron. The canes, deprived of their juices, become fit fuel, by means of which those juices are boiled into a proper consistence for granulation. The boiler of sugar endeavours to enter into an agreement with several planters at a time, so that his works, erected near the centre of their several plantations, may serve them all without changing his establishment: during the time he is employed, the servants and children of the planter are busily engaged in carrying canes to the mill.

The canes are planted very regularly in rows; and the earth carefully heaped up about the roots. As in the West-Indies, so in China, the people employed in the fields during this season are observed to get fat and sleek, and many of the Chinese slaves and idle persons are frequently missing about the time that the canes become ripe, hiding themselves, and living altogether in the plantations. Under the roots of the canes is found a large white grub, which, fried in oil, is eaten as a dainty by the Chinese.

EXTRACT *from an* ACCOUNT *of the* DUTCH EMBASSY *to* CHINA *in* 1795-6.

Dutch Embassy to China.

Among the articles brought from Canton into Kiangsi for the use of the interior of the country, the principal are fans and powder-sugar. I was surprized to find sugar among them, because Kiangsi produces a considerable quantity, as was shewn by the number of sugar-mills we had seen during our journey for some days past. This might lead to the conclusion that the produce of Kiangsi would be sufficient for the wants of the Northern provinces, and for the supply of Japan, the junks of Ning-pou exporting every year to that empire more than one hundred and twenty-five thousand quintals of sugar. It appears, however, that it is the province of Quantong which supplies what Kiangsi cannot provide.

EXTRACTS *from* M. De Guignes' VOYAGES *to* PEKIN, MANILLA, *and the* ISLE OF FRANCE, *in the years* 1784 *to* 1801.

De Guignes' Voyages to Pekin, Manilla, &c.

On the 24th November 1794, the second day after our departure from Canton, we landed from our boats, for the purpose of viewing the country. The principal article of cultivation being sugar-cane, it was not long before we came to a sugar-work, into which we went. Two buffaloes were turning two cylinders of wood, between which the Chinese introduced the canes to be expressed; the juice ran through a small pipe under ground into a tub. From the tubs it is afterwards taken to be boiled; and when the syrup is sufficiently inspissated it is spread on a mat covered with a frame, divided into small squares by means of slips of bamboo. The sugar, when cold, was broken to pieces, and put into baskets. It was of a very dark brown colour. The refuse of the canes serves for fuel, as in our West-India colonies.

The Chinese permitted us to examine every particular. The vehicles used for carrying the canes are very heavy, the wheels are solid and narrow. The two longitudinal pieces of the vehicle are sixteen feet long, and joined by several cross bars. The breadth is four feet and a half at the hind part, and three in front. A curved piece of wood, which is fixed at the end of the shaft, rests on the neck of the buffalo, and enables it to draw this clumsy machine.

On leaving the sugar-work, we saw a small altar surrounded with bamboos, and dedicated to the guardian genius of the fields: whose power did not, however, hinder our boatman from entering into the cane-fields, and carrying away a considerable quantity of canes.

The

The raw sugar exported from China is brought from the provinces of Quantong, Kian-si, and Fo-kien. The sugar-candy comes from Chin-tcheou, a city of the last-named province. The sugar-candy imported into China from Cochin-China is of a better quality than the Chinese. The price of raw sugar is from four to six tales per pecul. The price of sugar-candy from Fo-kien of the first quality is from seven to fifteen tales; and of Cochin-China sugar-candy, from eight to fifteen tales per pecul.

De Guignes' Voyages to Pekin, Manilla, &c.

EXTRACT *from* MR. ABEL'S NARRATIVE *of a* JOURNEY *in the Interior of* CHINA, *in the Years* 1816 *and* 1817.

PLANTATIONS of sugar-cane had been frequent in this part of our route, as well as in the southern part of the province of Kiang-si. The plants were growing to the height of seven or eight feet, and three or four inches in diameter. The mills in which the sugar was expressed appeared to be of a similar construction to one figured by Dr. Buchanan, in his work on India. It consisted of two upright cylinders of wood or stone, worked by buffaloes yoked to a long beam passing from the top of one of the cylinders. It was fed by introducing the cane between the cylinders whilst in action. The juice thus expressed was conducted by a channel into a large reservoir, and was thence transferred into boilers, whence, having been sufficiently inspissated, it was conveyed into pail-shaped vessels, about three feet deep and two wide, for the purpose of being transported to the refiners or to the market. The sugar thus obtained is very coarse, but undergoes some subsequent process of refinement, that we had no opportunity of witnessing. It was sent to our boats of various degrees of purity and colour, but seldom of a very fine quality. A very white powder sugar, much used by Europeans at Canton, is pulverized sugar-candy. The manufacture of the last article is said by De Guignes to be confined in a good measure to Chin-tcheou, the capital of Fokien. A better kind than any made in the country is imported from Cochin-China.

Abel's Journey in China.

The buffaloes that work the mills live upon the refuse of the sugar-cane, and thrive upon it in the same manner as our English dray-horses fatten on the grains of the brewhouse. These animals, like those of Java, betrayed the greatest alarm at our approach.

The sugar-cane plantations are irrigated by the mills, so well described and accurately figured by the late Sir George Staunton; and are equally remarkable for simplicity, ingenuity, and efficiency. It is impossible to view these machines without giving the Chinese credit for not only using great skill, but much mathematical precision in their construction. They are made entirely of bamboo, without any metallic fastenings, and are therefore so light as to turn with the slightest impulse from the stream. When in a state of perfect repair, (for the greater number of those which we saw were far otherwise) the hollow bamboos fixed to their circumference, and acting as buckets, are set on at so nice an angle, that they deliver the water into the trough with scarcely any loss. The height of these wheels vary with that of the bank over which they raise the water.

EXTRACT *from* BARROW'S TRAVELS *in* CHINA.

FROM Kan-tchoo-foo the face of the country became more uniform and suitable for the labours of agriculture; and accordingly we found a very small portion of it unoccupied. Wheat (on the 7th Dec.) about six inches above ground; and extensive plantations of the sugar-cane, fit for cutting, were the chief articles under cultivation: and the further we advanced to the southward, the more abundant and extensive were those of the latter. The canes were remarkably juicy, and their joints from six to nine inches in length. To express the juice from them, and convert it into a consistent mass, temporary mills were erected in different places among the plantations. The process was very simple. A pair of cylinders, sometimes of stone, but more generally of hard wood, placed vertically, were put in motion by oxen or buffaloes; and from the foot of these the expressed juice was conveyed, by a tube carried

Barrow's Travels in China.

Barrow's Travels in China.

under the floor into a boiler that was sunk in the ground at the head of the apartment; where it was boiled to a proper degree of consistence, the expressed canes serving as fuel. Though unacquainted with the process of refining sugar, the natural tendency the syrup possesses of forming itself into chrystals, when cooling, had suggested to them the means of obtaining very fine and pure sugar-candy, which in the market of Canton is sold in a pulverized state, as white as the best refined sugar. The coarse syrup, usually called treacle or molasses, and the dregs, are not employed, as in the West-India islands, in the distillation of rum, but are sometimes thrown into the still with fermented rice, in order to procure a better kind of *sean-tchoo*, or *burnt* wine; the chief use, however, of the molasses is to preserve fruits and other vegetable productions, and particularly the roots of ginger.

Every plantation near this part of the river has a wheel for raising water, which is either conveyed at once into the plots of canes, or into reservoirs, out of which it is afterwards pumped, as occasion may require, by the chain-pump, and carried to those places where it might be wanted, along small channels coated with clay.

EXTRACTS *from* MR. CRAWFURD'S HISTORY *of the* INDIAN ARCHIPELAGO, 1820.

Crawfurd's History of Indian Archipelago.

THE Indian islands produce a great variety of vegetable substances, less in demand among the natives than foreigners. The bare mention of the names of black pepper, cloves, and nutmegs, not to particularize minor articles, is associated with some of the most interesting and important events, both in the commercial and civil history of our species. In the commercial language of Europe, most of the articles which compose this chapter are known by the vague name of colonial productions. This designation, however, independent of its inaccuracy, is a great deal too limited, for it is not in the markets of Europe alone that the productions of the Archipelago are in demand, they are also in request in every part of Asia, from Japan to the Hellespont.

I shall begin my account of this interesting subject with the husbandry of the sugar-cane (*arundo saccharifera*). There exist in the Indian islands several varieties of this production. Three may be considered as indigenous, and a fourth has been introduced by Europeans. The indigenous varieties are chiefly distinguished by the size and colour of the stem of the cane. One is of a pale yellow colour, having joints five inches long; a second is a small cane, not above an inch thick, of a greenish yellow colour; and the third, the most remarkable, has a brown or purple coloured stem, and is often two inches in diameter. The exotic variety is a cane introduced by the Dutch into Java from the West-Indies in very late times. This is the kind principally used in the manufacture of sugar. The purple-coloured cane, because it tinges the sugar, is unfit for this purpose.

In Java, sugar-cane, though it may, for the consumption of the natives, be cultivated in any season, is, for the manufacture of sugar, planted by slips in the months of July and August, and cut in those of May and June. Two *ratoon* crops (*Bungke*) are usually taken, and sometimes a third. Sugar-cane is usually cultivated in dry arable lands of some little elevation, and never in the finest soils of the country, those fit for growing the great rice crop, so that the culture does not interfere with the immediate production of food. A rich dark loam yields cane which is most productive in sugar, and a soil in some measure sandy, and to a small degree of a gravelly nature, that which affords sugar of the whitest and best quality. In the western districts of Java, the Chinese apply the oil-cake, the refuse of the press from the manufacture of oil from the ground-pestachio, as manure; but in the more fertile eastern districts, no manure whatever is employed, but, after yielding three successive crops, it is then the practice, as land is plenty, to allow the ground a fallow for two seasons. In Java and the Phillipines, where alone sugar is manufactured to any extent from the cane, the manufacture is solely in the hands of the Chinese. The process pursued is similar to that of the West-Indies, which has been so frequently described, only that the machinery is ruder and less expensive. The cylinders of the mill are of wood instead of iron, and the

boilers

boilers of iron instead of copper. The latter are imported from China. The machinery is always moved by cattle, and never by water. The sugar of Java and Manilla is always clayed, and the manufacture of muscovado is not practised. The size of the works may be estimated from the quantity of sugar manufactured by them, which is commonly from 950 to 2,400 cwt. in five weeks, the usual duration of the manufacturing season.

The sugar-cane is certainly an indigenous production of the Indian islands, but to what particular spot it originally belonged has not been determined. I am not aware that, any more than the valuable *cerealia*, it has yet been detected in its wild state. Like them, and all other useful plants, rendered abundant only by the industry of man, we find it in every language and dialect, from Sumatra to New Guinea, and the Phillipines, known by one name, which, with very slight variations easily accounted for, is *tabu*. This is a native term, unknown as far as our information extends to any language ancient or modern, beyond the pale of the Archipelago, and we can, therefore, from analogical reasoning, entertain no doubt but the sugar-cane is an indigenous product of these countries. Although the cane be a native of the Indian islands, the art of manufacturing sugar from it is certainly a foreign art, and appears to have been unknown to the natives in all periods of their history. There is no name for sugar in any dialect of the Indian islands but a foreign one, and this foreign one, *gula*, is pure Sanskrit. We might conclude from this, that the Indian islanders acquired, in their early intercourse with the Hindus, the knowledge of extracting sugar from the juice of the cane. This, however, I imagine, was not the case. When Europeans first became acquainted with the natives of these islands, they found them ignorant of the manufacture of sugar from the cane. The Hindu word *gula* is, indeed, equally applied to palm-sugar as to that of the cane; I therefore suppose, that the Hindus instructed the Indian islanders only in the simple process of manufacturing the former, and that the manufacture of the latter was introduced by the Chinese, under the auspices chiefly of Europeans, and in times comparatively very recent. The natives of the country, indeed, to this day are unacquainted with the art of extracting sugar from the cane, which they rear solely with the view of using it in its raw state, as a common esculent vegetable. An English acre of cane in middling land, cultivated without manure, produces in Java 1,285lb. avoirdupois of clayed sugar. The best lands will give an average of 1,815lb. Rich cane-juice yields 31½ per cent. of sugar, middling 25, and the worst 20⅚, or, an average of all, 25 per cent.

The cost of manufacturing sugar, in a country where the land is so fertile and food so cheap, is remarkably moderate. A sugar-mill, along with a hundred and twenty pair of working buffaloes for the labours of the field and mill, and with agricultural implements, is thought to be worth 12,000 Spanish dollars. This mill is equal to the manufacture of the produce of 198⅓ English acres, and will yield 2,277 cwt. of clayed sugar. The cost of the sugar may be easily estimated from these data:

	Sp. Dollars.
Interest of capital at 10 per cent. on Spanish dollars 12,000, is	1,200
Rent of land and land-tax at 2$\frac{75}{100}$ per acre while in cultivation	545
Calculated expense of culture and manufacture	1,355
Profit at 10 per cent. on capital and outlays	1,510
	4,610
Deduct molasses sold to the natives of the country for the manufacture of sweetmeats	400
	Sp. Dollars 4,210

By this estimate, which is on a liberal scale, it will be seen that good clayed sugar may be manufactured in Java at Spanish dollars 1$\frac{85}{100}$ per cwt., or at the exchange of 4*s.* 6*d.* 8*s.* 4*d.* nearly. In the district of Kudus, where this estimate has been made, the manufacture is carried to a great extent. The price of common rice, such as that used by the natives, is 41½ cents. of a Spanish dollar per 100 lbs. avoirdupois, and common day-labour is rewarded at the rate of two dollars per month. The best working buffaloes, the strongest and finest cattle of

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of the country, cost no more than 10 Spanish dollars a pair. The profits which would accrue to the planter from combining the manufacture of arrack are not estimated, for this is injudiciously made an object of monopoly.

Of the celebrated Batavian arrack, which so much excels all liquors of the same name, I shall now give a short account; it is made from a mixture of molasses, palm wine and rice, in the following proportions:

Molasses	62 parts.
Toddy or palm wine	3
Rice	35
	— 100

100 parts of these materials yield 23½ parts of distilled proof arrack.

The process of manufacture is as follows. The rice is first boiled, and after cooling a quantity of yeast is added to it, and it is pressed into baskets, in which condition it is placed over a tub, or tubs, for eight days, during which time a liquor flows abundantly from the mixture; at the end of that time the liquor is taken out, and mixed with the molasses and palm wine, which had been previously combined. The mixture remains in a small vessel for one day only, when it is removed into large fermenting vats, in which it remains for seven, when, at the termination of this period, the process of fermentation is over, the liquor is finally removed into the stills, and, according to the number of distillations it undergoes, becomes arrack of the first, second, or third quality in commerce.

The manufacture of arrack is conducted separately from that of sugar, the arrack distillers usually purchasing their molasses from the sugar manufacturers, at the rate of about a dollar and a half a pecul, deliverable at the distillery. The best arrack is manufactured at the rate of seven Spanish dollars per pecul, or 2$\frac{1}{100}$ dollars per cubic foot.

It is not very easy to determine with whom originated the manufacture of this singular spirit. It is evident enough, from the nature of one of the materials, the molasses that it is not a native manufacture. The name *arak* is Arabic, but among the natives it is not confined to this particular modification, but applied generally to every kind of spirituous liquor.

To describe all the foreign commodities which the Japanese, a rich, luxurious, and numerous people, inhabiting the same climate with ourselves, and having the same essential wants, would require, would perhaps embrace all that a manufacturing and commercial people could supply, from their own industry or that of their colonies. The sugar-cane is not cultivated in Japan, and sugar constitutes one of the most considerable articles of the cargoes of the Dutch and Chinese, the Dutch sold their coarse sugar at near 20 Spanish dollars the picul of 125 Dutch lbs., probably about ten times the price paid for it.

Sugar is a production, for which, like coffee, the Indian islands are indebted to the enterprize and knowledge of Europeans. Java and Luconia, or Lusong, are the principal places of production. The Chinese residing in SIAM have of late years manufactured, indeed, a considerable quantity of excellent quality, which finds its way into the Archipelago, and eventually to Europe; all the sugar manufactured in the Indian islands is of the description called clayed. The sugar in manufacturing is formed in pots, the lower part of which being the worst clayed, and the upper the best, this circumstance determines the commodity into two qualities in the market. The manufacture is entirely in the hands of the Chinese, to these the European resident merchants make advances, and the produce is delivered at the end of the manufacturing season. I have already attempted to estimate the cost of growing sugar in Java, and stated it at 2$\frac{75}{100}$ Spanish dollars the picul of 136 lbs. The European merchants at present contract with the planters at the following rates:—For the best white sugars, from five to six and a halfdollars the picul of 136 lbs. avoirdupois; and for the brown, from four to four and a half dollars, or an average for both of five Spanish dollars. It is usually sold to the exporter for about eight dollars the white, and six or seven the brown. These high prices, and a free culture and trade in the commodity, have been, within the last few years, the cause of an immense increase in the culture of the sugar-cane. This has been most remarkable in the rich districts of the eastern part of the island.

In

In 1813, the quantity of sugar produced in the central districts did not exceed 10,000 piculs, or 12,142 cwts. In 1818, it had increased six-fold, or was 60,000 piculs or 72,857 cwts. The quantity produced in the western districts is 120,000 piculs, or 145,714 cwts., and in the eastern extremity of the island 20,000 piculs, or 24,285 cwts., making in all 200,000 piculs, or 242,857 cwts. or 27,200,000 pounds.

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The quality of Java sugar will be best ascertained from comparing it with other sugars in the market in which it is best known. When a pound of Java sugar, mixed brown and white, sells in the market of Rotterdam for $10\frac{1}{2}$ groats,

Bengal sells for.....	9 groats.	Brazil sells for.....	10 groats.
British West-India.....	$9\frac{1}{2}$	Havannah	14
Surinam	$9\frac{1}{4}$	Manilla	10

It may be observed, in respect to the quality of these sugars, that those of Manilla, Java, and Brazil, are nearly equal.

Edwards has estimated the price of growing sugar in Jamaica at 18*s.* 9*d.* per hundred-weight, making 22*s.* $9\frac{1}{4}$*d.* per picul. By the estimate I have furnished, this is 125 per cent. dearer than Java sugar. Under a system of colonial policy and government perfectly liberal and free, I should calculate upon good clayed sugar being exported from Java at the low rate of from three to four Spanish dollars per picul.

The better part of the molasses obtained in the manufacture of the sugar of Java is, in the present abundance of it, nearly wasted, especially in the eastern districts, where no arrack is manufactured. Any quantity may be purchased on the spot where the sugar is manufactured at the rate of half a dollar per picul; and the finest might, were there a market for it, be delivered to the exporter at four shillings per hundred-weight.

The arrack, or spirits manufactured from rice, molasses, and palm wine, is made in large quantities, chiefly for domestic consumption. In former times, it was exported in considerable quantity, particularly to Europe and Madras. The arrack of commerce is of three kinds, which are mere varieties in the strength of the spirit. The leaguer of the highest proof, including duties, is usually sold at from sixty to seventy-five Spanish dollars, according to the demand, which is forty-five cents of a Spanish dollar per gallon, and one of the second at from forty-five to fifty-five Spanish dollars, or thirty-three cents per gallon. It is calculated that the best may be afforded, including duties, for seven Spanish dollars per picul, which is thirty-seven cents, or twenty-pence per gallon, and the ordinary at twenty-eight cents, or fifteen pence.

EXTRACT PROCEEDINGS *of the* AGRICULTURAL SOCIETY *established in* SUMATRA, 1820.

Extract Proceedings of the Agricultural Society in Sumatra, 1820.

The manufacture of sugar was formerly carried to a considerable extent in the more prosperous days of this settlement,* and it is one which the Society considers highly deserving of attention. It is with much satisfaction they witness the attempt about to be made by one of their members to revive this cultivation, and calculating on the success which formerly attended it, and the advantage of this gentleman's experience in the West-Indies, they look with confidence to a favourable result. Good marketable sugar was manufactured at Bencoolen at from four to five dollars per picul, which is also the present estimate; and although this is rather higher than it is understood to cost the manufacturer in Java, it is, with reference to the absence of all vexatious duties and restrictions, deemed sufficiently favourable to encourage the speculation.

* Bencoolen.

EXTRACTS *from* MR. MACPHERSON'S ANNALS *of* COMMERCE. 1805.

Macpherson's Annals of Commerce.

Before Christ 524. The Zygantes, an African nation, besides having plenty of the honey prepared by bees, had a much greater quantity made by the hands of men, which must have been sugar (perhaps not brought to a grain) prepared from the liquor of the sugar-cane [Herod. l. iv. cc. 189, 194.]; and this is, I believe, the very first notice of sugar to be found in history.*

Before Christ 324. At the time of Alexander's invasion, the jurisprudence and police of India were regulated with admirable wisdom, matured by the accumulated experience of many centuries of civilization and established government. The large extent of the estates or kingdoms, the perfection of their agriculture and manufactures, and the very flourishing state of the arts and sciences, afford evident proofs of this truth. Their fertile fields and their judicious cultivation produced annually two crops of grain of various sorts, whereof rice constituted the chief article of their subsistence. From rice they extracted a spirituous liquor, as well as from the sugar-cane, from which they also made sugar, which Nearchus [ap. Strab. l. xv. p. 1016] calls honey of canes, its proper Indian name of sacchar (σακχαρ) being yet unknown to the Greeks.

A.D. 14. Arabia furnished the traders from Egypt with various aromatics; precious ointments, small diamonds and other gems, pearls, frankincense, the best myrrh, and other precious drugs, and sugar of a quality inferior to that of India.

A.D. 73. The ports beyond the Red Sea had an established trade with Ariaké and Barygaza, both on the west coast of India, from which they received,

Corn,
Rice,
Butter,
Oil of sesame,
Cotton goods of various kinds,
Sashes,
Cane honey, called sugar.†

A.D. 877. Sugar-canes appear to have been cultivated, and their juice made into sugar, in the southern countries of Asia, and some parts of Africa, in the earliest ages. But they were probably unknown in Europe till the Saracens introduced them in Sicily, the fertile soil and warm climate of which were favourable to their production. In process of time the canes were transplanted from Sicily to the southern provinces of Spain, whence the cultivation of them is said to have extended to Madeira and the Canaries, and finally to Brasil and the West-Indian Islands, if they were not indigenous in the latter.‡

A.D. 947.

* This information being undoubtedly derived to Herodotus from the Carthaginians, may be fairly presumed to carry the fact to at least 500 years before the Christian era, and is therefore above 200 years older than the mention of sugar by Nearchus, or that by Theophrastus, which is sometimes adduced as the earliest notice of it.

That the substance mentioned by Herodotus was no other than sugar, is pretty certain, from the uniform practice of the Greek and Roman writers, who had no other word than honey to express sugar, till they got the genuine name *sacehar* from the East. The learned Casaubon, in his note on the passage of Strabo [l. xv. p. 1016], where Nearchus is quoted, has collected a variety of instances of the name of honey being applied to sugar, where it is expressly said to be made from canes; and the canes themselves were called honey-canes ('cannæ mellis') by the writers of the middle ages, when they were beginning to be cultivated in Europe. See Falcandi Hist. Sicul., col. 258; ap. Muratori Script., V. VII.

† Our word *sugar* is from the Greek σακχαρ, which is exactly the Indian word *sacar*. [Linschoten's Voyages, p. 104.] The Periplus give clear proof of what I have said already, that sugar was called honey by the Greeks, till they got the genuine name of it from the East; and that the genuine name was but very lately known, may be inferred from the author thinking it necessary to preserve the old name (cane honey) as an explanation. It is rather surprising, that sugar does not appear in the Periplus among the direct imports from any part of India to Egypt. We know that Indian sugar found its way to Rome at this time, apparently through the hands of the merchants on the east coast of Africa, as Pliny [L. xii. c. 8] distinguishes it from Arabian sugar by its superior quality. He says it was scarce, being used only in medicine: and he describes it as a white gum, brittle, and in pieces not larger than a filbert nut.

This description answers to the Indian, or perhaps rather Chinese, white sugar-candy, which is compared to diamonds for clearness and hardness. And I suppose the Indian stone, described by Megasthenes [ap. Strab. lib. xv. p. 1028] as sweeter than figs and honey, was the same hard sugar-candy. [See also Doctor Moseley's Treatise on Sugar, p. 71, second ed.] The spirituous or inebriating liquor, made from the sugar-bearing cane, mentioned by Nearchus [ap. Strab. L. xv. p. 1016], was probably also carried to Rome, though there is no mention of it in Pliny or the Periplus.

‡ The champions of the cross found sugar-canes in Palestine, Egypt, Cyprus, Rhodes, &c. But though the description of sugar-canes (or honey canes, 'cannæ mellis') growing near Panormus in Sicily, given by the Sicilian author Falcandus [ap. Muratori Script. vol. vii. col. 258], who wrote in 1189 or 1190, is perfectly just and accurate; the accounts of the process of making sugar ('zucare or zuchara') given by Jacobus de Vitriaco [Hist. Orient. cc. 53, 86], who wrote about 1200, and those by the other historians of the holy war, are very defective and confused, as describing a thing little known. Indeed, we must suppose that the sugar in Palestine was of a very bad quality, or very trifling in quantity, as we find sugar one of the articles brought to that country along with cinnamon, pepper, &c. from Babylon by a caravan, which was plundered by Richard I. king of England. [G. de Vinesauf, ap. Gale, vol. 2d p. 407.] I have not been able to ascertain the date of the introduction of the sugar-cane into Sicily by the Saracens. According to Raynal [Hist. Phil. et Pol. V. 6th p. 157, ed 1782] it was not till about the middle of the twelfth century. But he never quotes authorities, and the Saracens had lost the dominion of the island long before that time. That sugar-canes were

A.D. 947. Ebn Haukal, an Arabian traveller who lived between 902 and 968, composed a geographical account of all the countries occupied by the Mahamedans. Macpherson's Annals of Commerce.

In his time Hormuz was the emporium of Kerman (or Carmania): the people of that country cultivated sugar, and were noted for industry and probity.

A.D. 1160. The following hints are collected from the narrative of Benjamin, a Jew of Tudela in Spain, whose travels over a great part of the known world, began in the year 1160 and continued to the year 1173, afford more information concerning the state of the commercial part of the world than can easily be collected from all the other writers of the age:—New Tyre, a place of considerable traffic, with a most commodious and secure harbour, still keeps up its most ancient pre-eminence in its manufactures of glass-ware, and is also famous for excellent sugar.

A.D. 1191. The enumeration of the articles belonging to one of the caravans travelling from Babylon to Palestine, which was plundered by King Richard, gives us some idea of the nature of the Oriental trade, as conducted at that time by the way of the Persian Gulf. They consisted of a great quantity of gold and silver (which must have been bullion, as money is also mentioned), robes of silk, purple, round gowns ('ciclades'), purple dye, a variety of ornaments for dress, arms and weapons of various kinds, sewed coats of mail of the kind called gasinganz, embroidered cushions, sumptuous pavilions and tents; biscuit, wheat, barley, and flower; electuaries, and other medicines; basins, bottles, bags, or perhaps purses ('scaccaria'); silver pots and candlesticks; pepper, cinnamon, and other choice spices of various kinds; sugar and wax; with a prodigious quantity of money.

A.D. 1321. Marino Sanuto, a noble Venetian, moved by the hardships brought upon the European traders, and burning with catholic zeal, addressed to the Pope a work entitled "The Secrets of the Faithful," wherein he proposed to suppress the Egyptian trade by an armed force; and to that work we are indebted for an ample account of the Indian trade as it was then conducted.

Sanuto, envying the Sultan and the Saracens the great revenues and profits they derived from silk and sugar, observes, that the latter grows in Cyprus, Rhodes, Amorea, and Marta. He adds, that it would grow in Sicily and other Christian countries, if there were demand for it. Silk, he says, is produced in considerable quantities in Apulia, Romania, Sicily, Crete, and Cyprus, and the quantity might be increased.

A.D. 1420. The Portuguese began this year to cultivate the island of Madeira. The first settlers did not think of planting vines, but gave their attention chiefly to sugar-canes brought from Sicily, which succeeded very well, the Prince's fifth part amounting in some years to 60,000 arobas, or about 15,000 hundred-weight.—[Purchas, B. 2d, c. 1. §2].

A.D. 1503. According to Morisot [Orbis Maritimus, L. ii, c. 13. p. 410], there arrived two Zealand ships at Campveer, loaded with sugars, the produce of the Canary Islands. As yet no sugar-canes were produced in America; they were transplanted soon after this time from the Canaries. We have already seen that the first sugar-canes west of the Mediterranean Sea were planted at the Isle of Madeira, which had them from Sicily; from whence, or else from the coasts of Africa, they might be brought to the Canaries. "The boiling and baking of sugars," says Dr. Heylin in his Cosmography, whose first edition was printed anno 1624, "as it is now used, is not above 200 years "old;* and the refining of it more new than that first found out by a Venetian in "the days of our forefathers, who got 100,000 crowns by the invention; before which "art of boiling and refining it, our ancestors made use of it rough as it came from "the canes. But they most commonly used honey instead of it."

A.D. 1506. About this time sugar-canes, brought from Brazil and the Canaries, were planted in the island of Hispaniola, where (says Herrera) many sugar-mills were gradually erected. Before the Brazil sugar was brought into Europe, that commodity was very dear, being only used in feasts and physical necessities; honey being till then the general ingredient for sweetening meats and drinks.

A.D. 1560.

were first planted by the Saracens in Sicily is generally allowed, and they probably introduced them soon after they got possession of the island. See Gibbon [V. x. p. 1192 3d ed.], who, very contrary to his general practice, has neglected quoting his authority: but his profound research and approved accuracy entitle him, beyond most writers, to be credited for the fidelity of his assertions. Along with the authors here quoted, see Albertus Aquensis, Fulcherius Carnotensis, and Willielmus Tyrius, all in the Gesta Dei per Francos.; De Guignes in Mem. de l'Académie, V. 37, p. 509; Edwards' Hist. of the West-Indies, V. 2d, p. 19; Moseley's Hist. of Sugar. It is not improper to observe here, that the cultivation of the sugar-cane is now neglected in Sicily, owing (as Brydone in his *Tour in Sicily* informs us) to the enormous duties imposed upon it; and certain it is, that that most fertile island, perhaps the mother of all the sugar-canes in the western world, now receives sugar from Britain and other countries.

* It appears by the *Accounts of the Chamberlain of Scotland*, published from the original in the Exchequer, by John Davidson, Esq., that so early as the year 1329, *loaves of sugar* were sold in Scotland at the price of 1s. 9½d. (above an ounce of standard silver) by the pound. So Dr. Heylin is surely mistaken, at least in the date of the invention of sugar-baking. M.

Macpherson's Annals of Commerce.

A.D. 1560. From Portugal, Antwerp brought sugars of the Island of St. Thome, under the equinoctial line, and other islands on the African coast, and from Barbary, sugars, &c. Antwerp sent some sugar to Venice.

A.D. 1562. Mr. John Hawkins loaded home three vessels from Hispaniola with sugar, hides, &c.

A.D. 1627. About this time (according to the ingenious author of Caribbeana, 2 vols. 4to. 1741) the sugar trade of England had its rise in the first settlement of the island of Barbadoes, the mother of all the sugar colonies. Others dated the settlement of Barbadoes twelve years earlier. Till several years after this time, the Portuguese supplied most parts of Europe with Brazil sugars.

A.D. 1643. The Parliament now laid a tax for the ensuing year on beer and ale, in all counties within the limits of their power, calling it by a new word, *excise*. In which ordinance they also laid a duty of 4*s*. per pound on foreign tobacco, and 2*s*. on English tobacco; £6 on every ton of wine retailed, and £3 per ton for private consumption. A duty also on raisins, *sugar*, currants, cloth of gold and silver, tissue, damask table linen. And the King's Parliament, then sitting at Oxford, imposed the like tax on all within their power.

A.D. 1659. The Island of Barbadoes was by this time become rich and populous; for, in a pamphlet entitled "Trade Revived," printed this year, the author, treating of the value of our American plantations, describes "Barbadoes as having given to "many men of low degree exceeding vast fortunes, equal to noblemen. He says, that "upwards of 100 sail of ships there yearly find employment, by carrying goods and "passengers thither, and bringing thence other commodities: whereby seamen are bred "and custom increased, our commodities vended, and many thousands employed "therein, and in refining sugar at home, which we formerly had from other countries. "And all this out of that very small, dry, and rocky island." By this account it should seem, that our other Caribbee isles had scarcely begun to cultivate sugar. This also seems to be the first account of sugar-refining in England, though probably earlier in some other countries (see the year 1503).

A.D. 1660. In this session of parliament the first legal act was passed for the general encouragement and increase of shipping and navigation.

It was enacted (in clause xiii.) "that no sugar, tobacco, cotton wool, indigo, "ginger, fustic, or other dyeing woods of the growth or manufacture of our Asian, "African, or American colonies, shall be shipped from the said colonies to any place "but to England, Ireland,* or to some other of his Majesty's said plantations, there to "be landed, under forfeiture. And to make effectual this last clause (for the sole "benefit of our own navigation and people), the owners of the ships shall give bonds, "at their setting out, for the due performance thereof."—[12 Car. II., c. 18.]

A.D. 1670. "We have already, in my time," says Sir Josiah Child, "beat the Portu-"guese muscovado and paneal sugars quite out of England, and their whites we have "brought down in all these parts of Europe, in price, from £7 and £8 per cwt. to "50*s*. and £3. And we have also much lessened their quantities, for whereas formery "their Brazil fleets brought 100 to 120,000 chests of sugar, they are now reduced to "about 30,000 chests since the great increase of Barbadoes."

A.D. 1685. In this first year of King James II. an act of Parliament [c. 4] granted to him new duties on tobacco and sugar; and this, we must observe, was the first time that tobacco and sugar of our own colonies were particularly taxed by name; there being till now only 12*d*. in the pound (or five per cent. on their value) laid on them, under the general name of poundage, as on all other imported goods.

A.D. 1713. It is worthy of notice that Sicily, which apparently was the original mother of all the sugar-canes which have stocked the West-Indies, usually received sugars at this time from Britain. This remarkable effect of industry and commercial enterprize on the one hand, and of sloth and superstition on the other, appears in a representation to the Board of Trade by the merchants trading to Sicily, dated 27th October 1713.

A.D. 1725. About this time the French began to supply the European markets with great quantitles of their sugars from Martinico, Hispaniola, &c. formerly and almost totally supplied by us (though in part they are still supplied by the Portuguese Brazil sugars, and of late by the Dutch from Surinam). And in a few years after, by their great application, they gained from us the greatest part of that very profitable branch of commerce. The anonymous author of the Present State of the British and French Sugar Colonies (printed in 1740) makes the French sugar exported to the European markets amount to so vast a quantity as 80,000 hogsheads yearly; and the indigo raised by the French in their West India colonies, in value to one million of sterling money, three-fourths of which they sell to other nations. And they also export to other European nations in cacao, cotton, ginger, rum, (he might have added coffee, &c.) about £250,000 yearly: to all which may be added the freight thereon; the great number of persons, both in Europe and America, as well as in their ships, constantly maintained thereby,

* Ireland is left out in all subsequent acts, and expressly excepted in that 22-23 Car. II. cap. 26.

Macpherson's Annals of Commerce.

thereby; the great consumption of the product and manufactures of France, both in the West-Indies and on the African coasts, for the purchase of their slaves; and then we need not wonder that even so long ago as the year 1701, the new French Council of Commerce, in a memorial, could say, that the navigation of France owed all its increase and splendour to the commerce of its sugar islands, and that it could not be kept up and enlarged otherwise than by that commerce.

A.D. 1731. During this year there were re-exported from the port of London alone, in only two of the enumerated commodities imported from the British American colonies, 15,787,155 lbs. weight avoirdupois of tobacco, and 58,446 cwt. (of 112 lbs. to the cwt.), or 6,545,952 lb. weight of sugar; which equally serves to demonstrate the vast benefit of our plantations to their mother country, and the vast foreign commerce of the city of London, the whole exports thereof in this one year consisting of no fewer than 105 articles, or different species of merchandize, many of which were very considerable ones.

A.D. 1733. The warm dispute between the British American sugar colonies and the British northern colonies begun in the year 1731, concerning the trade of the latter with the French, Dutch, and Danish sugar colonies, of whom they took off, in exchange, for their provisions, horses, lumber, &c., considerable quantities of sugar, rum, and molasses, was now finally terminated by a prudent temperament of an Act of Parliament, [6 Geo. II. c. 13.] for the better securing and encouraging the trade of his Majesty's sugar colonies in America; the preamble to which sets forth, that whereas the welfare and prosperity of your Majesty's sugar colonies in America are of the greatest consequence and importance to the trade, navigation, and strength of this kingdom; and whereas the planters of the said sugar colonies have of late years fallen under such great discouragements, that they are unable to improve or carry on the sugar trade upon an equal footing with the foreign sugar colonies, without some advantage and relief be given to them from Great Britain: be it therefore enacted, I. That the several after-mentioned rates and duties be granted, *viz.* upon all rum of the foreign sugar colonies, which shall be imported into any of the British plantations in America, ninepence sterling for every gallon. Sixpence on every gallon of molasses, and five shillings on every hundred-weight of sugars and paneles, to be paid down in ready money by the importers before their landing the same. II. That no sugars, paneles, syrups, or molasses, nor any rum or spirits of America, except of the growth of his Majesty's sugar colonies, shall be imported into Ireland, but such only as shall be laden and shipped in Great Britain, in ships navigated according to the navigation laws, under forfeiture of ship and cargo: with sundry penalties on persons aiding in any clandestine importation; on persons obstructing custom-house officers; on custom-house officers conniving; on ship masters suffering such clandestine importation. Moreover, on all sugars and paneles imported into Great Britain on which the duty has been paid, if exported within one year after, all the duty shall be repaid: and also two shillings per hundred-weight on all refined sugars exported from Great Britain, over and above the former allowances on exportation. Proviso, that nothing in this Act shall be construed to extend to restrain the importation of sugars of the growth or produce of the dominions of Spain or Portugal, from places from whence such sugars might lawfully before have been imported. [6. Geo. II. c. 13].

A.D. 1734. All our sugar isles together are thought to produce annually 85,000 hogsheads of sugar, each hogshead containing 1,200 cwt., or in all 1,020,000 cwt.; of which Great Britain is thought so consume annually 70,000 hogsheads, or 94,080,000 lbs. of sugar, which for ten millions of people, if so many there be in Britain, comes to 9½ lbs. of sugar to each person; or if but eight millions of people, then about 11¾ lbs. of sugar to each person; and as there are undoubtedly about two millions and upwards of people in Ireland, we may omit them in this computation, as there may probably be near that number in all the British dominions who use little or no sugar at all.

It is computed, that three hundred sail of ships go annually from Great Britain to the sugar islands, besides those which go thither from our continental colonies: and that about 4,500 seamen are employed in navigating them; and that there is annually exported thither to the value of £240,000 in British manufactures.

A.D. 1736. It was at this time computed that the Portuguese in Brazil produced 67,600 chests of sugar, each of twelve hundred-weight, in all 811,200 hundred-weight of that commodity. The Portuguese still supply Spain, sundry parts of the Mediterranean coast, Holland, and Hamburgh, with a considerable quantity of sugar, as they formerly did England and France, till they laid ten per cent. additional impost on their sugar, and till the two latter nations had well cultivated their own sugar colonies.

The Dutch are said to produce usually between 30,000 and 40,000 hogsheads of sugar annually, at the colony of Surinam; and they are of late improving their plantations of Barbecies and Isequebe, adjoining to Surinam, on the continent of South America. The Dutch also frequently import sugars from East-India, and some also from their own isles of Eustatia and Curaçoa.

A.D. 1739. The French having gradually gained the ascendant over us in supplying the European market with sugars, by being permitted to carry them directly from their own sugar islands to foreign parts, without being first landed in France, liberty was

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therefore granted to carry sugars of the growth, produce, or manufacture of any British sugar colonies in America, from the said colonies directly to foreign parts southward of Cape Finisterre, in ships built in Great Britain, and navigated according to law; the major part of the proprietors of which ships shall, upon oath, be residing in Great Britain, and the residue in the British sugar islands, and not elsewhere, and cleared out from Great Britain or the British sugar islands, on certain conditions therein specified. [12. Geo. II. c. 30.] The French had the start of us in this prudent regulation by at least twelve years, as appears by their edicts of the years 1726 and 1727.

A.D. 1748. While the new subsidy of five per cent. on imported commodities was in debate, the sugar-planters and West-India Merchants, greatly alarmed thereat, published sundry essays, tending to shew the ruin, or at least the great detriment, which that duty (which however took place) would bring on the sugar colonies. From those essays, as well as from the Custom-house accounts then laid before the Parliament, we may gather the true state of the British sugar-trade, compared with that of France, taking the year 1742 for the rule, probably because we were in that year at peace with France, though at war with Spain.

Sugar produced in the French West-India islands in 1742, viz.

In Martinico, Guadaloupe, and the other lesser islands... cwt.	622,500
In Hispaniola (or St. Domingo)	848,000
Total.....	1,470,500

being about the quantity of 122,500 hogsheads of twelve hundred-weight each.

Sugars produced in the British West-India isles in 1742.

Imported into Great Britain .....Hhds.	60,950		
Shipped from our islands to the northern colonies and to foreign markets	5,000		
Total Hhds.....	65,950	or	Cwt. 791,400
Total produced in that year more by the French than the English			679,100

Of the 60,950 hogsheads imported into Great Britain, there were exported to Ireland, and to all foreign markets, 5,236 hogsheads; the consumption in Great Britain was 55,714 hogsheads, at the price of about twenty-five pounds per hogshead.

This sadly shewed the almost incredible improvements which France had made in her sugar islands in about forty years, whereby they were at this time enabled to undersell us in most places of Europe; though we trust the time is since at length come, or at hand, that we shall regain our former great exportation of sugars and other West-India commodities to foreign parts.

Those essays, however, admit that in times of profound peace, both with France and Spain, our sugar islands may produce 75,000 hogsheads of sugar annually; twelve hundred-weight each hogshead.

Of which 70,000 may be annually imported into Great Britain; which at £15 per hogshead, comes to	£1,050,000
And 5,000 hogsheads sent directly from those islands to North America and to foreign markets, at £10 each; with 50,000 hogsheads of rum and molasses at £6, on an average per hogshead	350,000
Total value in sterling money.....	£1,400,000

The tendency of these reasonings was to demonstrate, that the high price of our sugars was not owing to our planters' extravagant profits, but merely to the small quantities produced in some years. They also admitted, that since France has so vastly improved her colonies, there is more sugar made in all America (including the Spanish, Portuguese, Dutch, and Danish, colonies) in some favourable years, than all Europe can consume; which was particularly the reason of the low price of sugars between the years 1728 and 1735.—Now, say these essays, if the value of the coffee, pimento, logwood, and mahogany from Jamaica; and of the ginger, cotton, and drugs, from that and other British sugar islands, be added to the foregoing account, the importation from those islands may probably amount to £1,500,000 yearly.

A.D. 1764. The law allowing sugars of the British colonies to be carried directly to foreign parts in ships built in Great Britain, and navigated according to law, was prolonged till the end of the first session of Parliament, after 29th September 1771. [4. Geo. 3. 12.]

A.D. 1765. Sugar, ginger, cotton, and other produce of the British West-Indies, were occasionally imported into Holland, and sometimes in large quantities, chiefly from London.

The

The British factory at Hamburgh, the members of the most ancient commercial society belonging to Great Britain, observed in their report, that since the trade was laid open in the first year of William and Mary, it has been on the decline and getting into the hands of foreigners: Macpherson's Annals of Commerce.

In time of war, Hamburgh being a considerable magazine for the inland consumption of Germany, and a neutral place, many prize goods are sent to it for sale, both by the English and the French. During the war the English factory flourished by the consignments from England, and still more by those from America and the West Indies, insomuch that France used then to be supplied with sugars from Hamburgh: but now from 50,000 to 60,000 hogsheads of French sugars were carried annually to Hamburgh, and they had already driven the English sugars out of the trade.

A.D 1766. The merchants and traders of the city of Dublin represented to the Lord Lieutenant of Ireland, that four thousand families were supported by the trade of refining sugar, in which a capital of £340,000* was engaged; and they complained that the bounty given on the exportation of English refined sugar to Ireland was a hardship upon their trade, which it could not possibly bear. They therefore begged of him either to endeavour to get the bounty taken off from refined sugar shipped for Ireland, or to promote a bill in the Irish Parliament, for laying a duty on the sugar when landed in Ireland, which should be equivalent to it.

The English refiners, on the other hand, strenuously opposed the Irish proposal, and insisted that the statement given in by them was grossly misrepresented.

A.D. 1768. Mr. William Gilchrist, a millwright in Jamaica, invented a new mill for grinding sugar-canes, having the side rollers larger than the middle or main roller.

A.D. 1772. The expiring act for allowing sugar, to be carried direct from the British sugar colonies to foreign parts in ships built in Great Britain, and navigated according to law, was continued till the 29th of September 1778, and thence as usual to the end of the next session of Parliament. (12 Geo. III. c. 56.)

In order to give British sugars a preference in the Irish markets, the drawback hitherto allowed on foreign sugars carried from Great Britain to Ireland was stopped.

A.D. 1778. The act for carrying British sugars from the place of their growth in British-built vessels, navigated according to law, directly to foreign parts, was continued to 29th September 1785.

All sugars shipped from any British colony, without a proper certificate of their being the produce of the colony at which they are shipped, were made liable to pay duty as foreign sugars. (18 Geo. III. c. 58.)

This year the Legislative Assembly of Jamaica granted an exclusive patent to Mr. Samuel Sainthill,† for introducing the use of clarifiers in the process of boiling sugar.

A.D. 1781. March 29.—The discounts hitherto allowed on the duties payable on the importation of foreign goods were now repealed, and additional duties were imposed of $1\frac{3}{4}d.$ on every pound of tobacco, and 4*s.* 8*d.* on every 112 pounds of sugar, together with a further charge of five per cent. upon these additional duties. (21 Geo. III. c. 16.)

A.D. 1786. The act for carrying British sugars from the place of their growth in British-built vessels, navigated according to law, directly to foreign parts, was continued till 29th September 1792.

A.D. 1790. The manufacture of sugar from the juice of a species of maple-tree which grows spontaneously in many of the uncultivated parts of America, was said to have now become an object of considerable importance. It appears to have been first attempted about the year 1752; and it was occasionally attended to by some of the farmers of New England as a branch of rural economy: but upon so contracted a scale, that it was thought a great matter when one man made about 600 pounds of it, in the year 1765. During the American war, the difficulty of procuring West-India sugar turned the attention of a greater number of people to that species of manufacture; and since the peace, many, especially in the northern states, who disapproved of negro slavery, have thought it meritorious to promote the manufacture and consumption of a sugar, which can be provided without the labour of slaves. This manufacture has the extraordinary advantages over that of the West-India sugar, that the tree grows without requiring any attention to its culture, and continues several years to yield the saccharine juice; and that the season for making sugar is chiefly in February and March, frost being necessary to make the liquor run from the trees, when many other branches of rural industry are suspended by the extreme rigour of the season in a great part of America; and it grows rather more plentifully in the northern regions, where the great length of the winter renders it almost impossible for the farmer to maintain the number of servants requisite to perform the work necessary to be done in the few weeks of summer. Hence

* The petition to the Irish Parliament states the capital employed at £400,000.

† The original merit of this invention is by Mr. Edwards ascribed to John Proculus Baker, Esq., author of an "Essay on the Art of making Muscovado Sugar, 1775."

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Hence the manufacture of sugar becomes an important object, to fill up the industry of the farmers of Canada and Nova Scotia, whose labours hitherto have been rather unprofitable for about half the year; and the country-people bring sugar to market at Quebec, Halifax, &c. as regularly as other country produce.

Though the people in the middle states of America had been accustomed to make small quantities of maple sugar, it was not till the year 1790 that they began to pay any considerable attention to that branch of husbandry; it was then taken up as an important national object, and some refined maple sugar was sold in Philadelphia, which was pronounced equal to any loaf sugar made from West-India muscovado sugar.

The quantity of sugar imported into Philadelphia, on an average of five years,

1785-1789, was	lbs.	5,692,848
Loaf sugar in the same time		4,480
And 543,900 gallons of molasses, considered as equal to		2,719,500
Total quantity of sugar annually consumed in Philadelphia, and the country supplied from it	lbs.	8,416,828

In proportion to this quantity, ascertained by official document, the sugar necessary for the whole of the United States was estimated to be about forty-two millions of pounds, which quantity it is supposed may be produced from 263,000 acres of land bearing the sugar maple; and it is asserted that there are eight counties in New York and Pennsylvania, any one of which is more than sufficient to supply the whole of that large quantity, with scarcely any interruption to the other avocations of the farmer: as two men, one woman, and a child of ten years of age, are capable of performing all the labour necessary in producing 1,000 pounds of sugar in the two months of February and March. If New York and Pennsylvania are capable of supplying the whole of the United States with sugar, and that apparently very profitable branch of industry shall become an object of general attention, the West-India planters may meet with formidable rivals in the European market.

A.D. 1790. The French planters in St. Domingo found a method of refining sugar with the juice of limes and other acid fruits. This year Mr. Millet, a refiner of St. Domingo, removed to Jamaica, where he carried on his business with great success. Mr. Edwards, from whom I borrow this information, saw sugar refined by him with no other material than the juice of limes and Seville oranges (which grow wild, and cost only the trouble of the negro children to gather them), which for transparency and elegance surpassed the finest triple refined sugar of the London refiners.

A.D. 1791. April 11th.—An additional duty of 2*s.* 8*d.* per hundred-weight was imposed upon sugar, which, like some other duties imposed in the beginning of this session, was intended for paying off exchequer bills, and to cease when that object should be accomplished. [31st Geo. III. c. 15.]

A.D. 1792. February, March.—The increasing consumption of sugar in this country,* owing in a great measure to the reduction of the price of tea by the Commutation Act, and the increased demand for it abroad, owing to the deficiency of the French importation from St. Domingo, had raised that article to a price far above what had ever been known, since the extensive cultivation of it in the West-Indies had brought it into general use. Sugar may be obtained from the East-Indies in any quantity that all Europe can require, even with the disadvantage of the freight being so much heavier than from the West-Indies, provided the East-India sugar were placed upon the same footing with respect to duties and drawbacks as the West-India sugar.†

The consumers upon the Continent could not continue to buy British sugars at their very advanced price; and vessels from various parts of Europe, and also from the United States of America, were getting into the trade of importing East-India sugars for the European market. There being thus reason to apprehend the loss of the sugar trade, together with the carrying trade, and the other advantages to the commerce and revenue of Great Britain, attached to it, the public had for some years past looked to the East-India Company for assistance, in consequence of which the Directors had ordered some small parcels of sugar home from Bengal,‡ by way of experiment; and they had repeatedly applied to Government for an

* It was computed in 1792 at two hundred millions of pounds annually. Since 1792 the consumption of tea, notwithstanding the augmented prices, has increased very much, and consequently the consumption of sugar has also increased.

† The duty upon East-India sugars was not fixed with any prohibitory view: for sugar not being imported by the Company, at the time of establishing the present tarif, it was not even named, and is therefore classed with manufactured goods non-enumerated, at £37. 16*s.* 3*d.* per £100 ad valorem, a duty generally operating as a prohibition.

‡ In the course of the year 1791, four parcels of sugar from Bengal came to hand. They were generally very fair and dry, so as even to serve instead of loaf sugar, for tea; and partly owing to the scarcity, and partly because some people who wished for the abolition of the slave trade were eager to have sugar made by free people, they sold at from 88*s.* 6*d.* to 156*s.* 6*d.* per hundred-weight: yet, notwithstanding such prodigious prices, the Company, in consequence of paying the heavy duty, lost money upon the first parcel, and upon the total of the four they gained only about six per cent.

an equalisation of the duties upon sugars produced in the British territories in the East-Indies, with those paid upon the produce of the British territories in the West-Indies.* But though it is evident that the great difference in the freight must give a decisive and permanent superiority to the West-India sugars without the addition of a prohibitory duty, the Government did not think proper to comply with their request.† Macpherson's Annals of Commerce.

A.D. 1792. June. The universal use of tea having brought sugar to be considered as one of the necessaries of life, it became necessary to guard against the excessive exportation of it, somewhat upon the same principle with those in which the exportation of corn is regulated. The clerk of the Company of Grocers of London is required to obtain an account of the quantities and prices of sugars sold in London every week from the importers (who are directed to give in the same upon oath), and to publish the average price of the week in the London Gazette, and also to publish in the months of February, June, and October, an average of the prices during the preceding six weeks. It was enacted, that if the average price of muscovado sugar in July 1792 should exceed 60*s.* or in October 1792 should exceed 55*s.*, or thereafter should exceed 50*s.* per hundredweight exclusive of duties, the drawback allowed upon the exportation of muscovado sugar and the bounty upon the exportation of refined sugar should be discontinued till lower prices should again render the allowance of them expedient. The exportation of sugars to Ireland and some other parts of the British dominions was however excepted from the operation of this act; but the quantities to be carried to the islands of Guernsey, Jersey, Alderney, Sark, and Mann, during the suspension of drawbacks and bounties, are limited. The Commissioners of the Customs are also prohibited to grant licenses for carrying sugars from the places of their growth to foreign ports in Europe (as permitted by the acts 12 Geo. II. c. 30, and 15 Geo. II. c. 33.) during the suspension of drawbacks and bounties.

Sugar and coffee, the produce of foreign colonies, were also permitted to be imported in British-built vessels, owned and navigated according to law, from any port not in Europe into the ports of London, Bristol, Liverpool, Lancaster, Glasgow, and Leith, and to be warehoused at the expense of the importer, and to the satisfaction of the officers of the revenue, without paying any duty. Such sugar and coffee may also be re-shipped for exportation without paying any duties.

But if they are intended for home consumption, they must pay the duties which may be legally due at the time on the importation of such goods.

Sugar and Coffee the produce of foreign plantations were permitted to be imported in foreign vessels into the Bahama and Bermuda islands, subject to the regulations contained in the acts 27 Geo. III. c. 27, and 30 Geo. III. c. 29. And such sugar and coffee, if carried from those islands to any other part of the British dominions must pay such duties as shall at the time be payable on foreign sugar and coffee. [c.43.]

The West-India planters were much alarmed by the act of this year for regulating the allowance of drawback and bounty on the exportation of sugars from Great Britain, &c., which they considered as bearing hard upon themselves in a limitation of the price of their principal staple.

Soon after the act was received in Jamaica the Assembly of that island appointed a committee to inquire into the state of the sugar trade, and the probable effect of the act upon it, who gave in a report to the house, containing much valuable information upon the progress of cultivation in that important island, and of the changes in the prices of sugar. In a comparative view of the state of the cultivation, exports, and proceeds of sugars during two periods of four years each, which were exempted from wars and hurricanes, they stated the following facts, which I have reduced as much as possible to the comprehensive form of a table.

	In the years 1772, 1773, 1774, 1775.	In the years 1788, 1789, 1790, 1791.
The quantity of sugar imported into Great Britain from Jamaica during each period, was.....cwt.	3,921,781	5,130,085
and from the other islands .....do.	3,762,804	2,563,228
Shipping cleared out from Jamaica in year 1787, tons	85,788	—
and in the year 1791 (increase 52,361)	—	138,149
Average price of slaves	£34. 10*s.* 3½*d.*	£47. 2*s.* 6½*d.* in 1792 £59 2*s* 9*d*
Hire of Labourers per day.....	0 1 2	1*s.* 9*d.*

* In February 1792, the Directors upon the Committee of Warehouses drew up a report, containing a history of the sugar trade in the East and West, and recommending the importation of sugar, from Bengal, as the means of drawing back to this country a large portion of that foreign trade which it formerly enjoyed, whereby Bengal might be benefited above half a million annually.

† It is proper to observe, in favour of the West-India sugars, that they are paid for chiefly in British merchandize, and that the balance appearing due to the Islands is mostly expended by the proprietors of the plantations residing in Great Britain and Ireland, or paid to British Capitalists as interest for the use of their money.

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	In the years 1772, 1773, 1774, 1774.	In the years 1788, 1789, 1790, 1791.
American Lumber, Irish salted beef..., ——— pork..., Herrings ..... } advanced	.....	37, 22½, 10, 66 } per cent.
Herrings imported during each period.....barrels	76,168	9,051
Annual export of sugar from Jamaica to Great Britain.....cwt.	980,436	1,282,514
Average gross sales of it .....per cwt.	£1 14 8	£2 18 7
Amount of duties, insurance, freight, commissions, &c., and value of the supplies from Great Britain and Ireland, for the estates.....per cwt.	16 3½	1 6 5
Net proceeds at the disposal of the planter.....do.	18 4½	1 12 2
Net proceeds of the whole .....do.	£900,775 11 6	
Annual exports of sugar to America.....Hhds.	408	
Number of sugar estates in the island	775	767, whereof 47 are new settled.
Annual average of taxes raised in the island	£27,855 10 2	£102,328 4 3½
Extra public burthens amount to above.....	.....	45,000 0 0

Sugar estates require on an average an annual supply of six new negroes, the expense of which and the taxes (whereof two-thirds are paid by the sugar planters,) reduce the above net proceeds to £726,992. 2*s.* 4*d.* for the income of 775 sugar estates. That sum was inadequate to the support of the planters and their families, and the payment of their debts; and thence in the course of twenty years; there were sold for debt.....177 estates
there were thrown up ..... 55 do.
and remaining now (1792) in the hands of creditors ... 92 do.
The sugars were boiled with wood got upon the plantations.

The planters have begun to pay their debts, and have got into better credit.

with imported coals on many plantations.

The Committee apprehend, that the uncertainty of drawbacks being allowed or not must prevent foreigners from applying to Great Britain for sugars, whereby they are in danger of being confined to the consumption of Great Britian and Ireland, the consequence of which must replunge the planters into the state of bankruptcy and ruin from which they are beginning to emerge. They assert, that West-India produce is as much a part of the national wealth as if it were raised in any part of Great Britain; and they observe, from an account published by Mr. Arnould, that France, previous to the Revolution, received annually one hundred and twenty millions of livres for sugar and coffee exported to Italy, Holland, Germany and the Baltic; which sum of itself turned the balance of trade in favour of that kingdom. They therefore recommended to the House to instruct Mr. Fuller, their agent, to petition Parliament for a repeal of that part of the act which regulates the exportation of sugars from Great Britain to foreign markets.

A.D. 1793. The act empowering the importers of rum or spirits, the produce of the British sugar colonies, to land and warehouse the same at their own expense, before the duties of excise are paid, was continued till 29th September 1799.

June 17th. The war having raised the price of sugar, the regulations for the allowance of drawbacks and bounties were altered as follows. If the average price of muscovado sugar, in the six weeks preceding the 23d of June 1793, should not exceed 65*s.* per hundred-weight, and in August, October, and February following not exceed 60*s.* exclusive of duties, the drawback and bounty should be allowed; deducting one shilling per hundred-weight on refined sugar exported in foreign vessels. [c. 65.]

A.D. 1794. The liberty granted by two acts, 12 Geo. II. c. 30, and 15 Geo. III. c. 33, of carrying sugars directly to foreign ports in British vessels, was now rescinded, and the sugars produced in all the West-India islands, anciently or recently subject to Great Britain, are required to be brought to the ports of the British dominions in Europe. [c. 42.]

The French had lately introduced three new species of the sugar-cane in Martinique and their other West-India colonies: one from the island of Bourbon, said to have been brought thither from the coast of Malabar; another from Otaheite; and a third from Batavia.

The Bourbon and Otaheite canes are nearly of the same nature; they are much larger than the old West-India cane, some of the joints of them measuring nine inches in length, and six in circumference.*

Some of them have weighed seven pounds when trimmed fit for grinding, being above two

* Captain Bligh, in his account of his voyage to the South sea (p. 85), says, "some very fine, sugar-cane was brought to me; each of the pieces was six inches round." Sir Joseph Banks had some dried specimens of those canes, brought home by Captain Bligh, in one of his voyages for the bread-fruit tree.

two pounds heavier than the largest picked canes of the old kind. They ripen sooner, being fit for cutting in ten months; and their juice also granulates (or becomes sugar) sooner, and throws up less scum in the boiling than that of the old canes. Macpherson's Annals of Commerce.

They also resist the injuries of excessive dry weather, and the ravages of a destructive insect, called the borer, so much better than the others, that Mr. Pinnel, a considerable planter in the French island of Guadaloupe, obtained no less than three hogsheads of sugar from half an acre of the Bourbon cane, which he had planted as an experiment, in the year 1792, when his other canes were so much damaged by extraordinary drought and the borer, as to be unfit for making sugar.

The first trial of the new canes in any British colony was made in the year 1793, by a gentleman of Montserrat, to whom Mr. Pinnel gave some of his plants. But the fate of war having now subjected most of the French islands to the dominion of Great Britain, they were this year transplanted to Antigua, by Admiral Laforey, a proprietor of some plantations in that island, who estimated the produce of them at 3,500 pounds of sugar from an acre,* in a season wherein the dry weather and the borer were particularly fatal to the other canes.

After such proofs of their superiority, the new canes, generally under the name of the Bourbon canes, were soon spread over all the British West-Indies, where they very quickly superseded the old canes, and with such advantage to the proprietors of sugar plantations, whom they have inspired with the most splendid hopes, that the introduction of them will undoubtedly constitute an important æra in the history of the West-Indies.†

A.D. 1795. June 26. The act 32 Geo. III. c. 43, having fixed 50*s*., exclusive of duty, as the highest average price of muscovado sugar, at which the drawback should be allowed on the exportation of muscovado, or the bounty on the exportation of refined sugar, it was now, on account of the war, fixed at 65*s*. At the same time one shilling per hundred-weight was deducted from the bounty on refined sugars exported in foreign vessels. [c. 110.]

A.D. 1795. December 24. The drawbacks and bounties hitherto allowed upon the exportation of Sugar were now reduced, 4*s*. per hundred-weight being taken from each till 31st January 1796, and after that day 7*s*. per hundred-weight. But the full drawback and bounty were still allowed on sugars carried to Ireland. [c. 18].

The act 35th Geo. III. c. 119, prohibiting the use of wheat and other grains in the distillery, was continued in force till 1st February 1797. The distillers were also prohibited from using molasses of the manufacture of this kingdom, sugar, or potatoes, or any mixture of them. [c. 20.]

A.D. 1796. Additional custom duties were imposed on the following articles, *viz.*

	£	s.	d.
Muscovado sugar of the British colonies, per 112 lbs	0	2	6
Sugars imported by the East-India Company	0	2	6
All other sugars	0	5	0

These duties were made to commence on the 9th of December.

The whole of the additional duty now imposed on muscovado sugar is allowed to be drawn back on exportation; and, in consideration of the duty, an additional drawback or bounty, of 2*s*. 6*d*. per 112 lbs., is allowed on the exportation of bastard, refined, ground, or powdered sugar, refined loaf sugar broken in pieces, and sugar-candy; and 4*s*. on refined sugar in the loaf or whole, if they are made from British sugars imported after the 7th of December 1796.

A.D. 1798. It was now enacted that the drawbacks and bounties on the exportation of sugar should be allowed, when the average price (to be ascertained agreeably to the directions contained in the act 32 Geo. III. c. 43) should not exceed 67*s*. 6*d*. per cwt. clear of the duty of customs. [c. 61.]

A.D. 1799. July 1. The following additional duties, some commencing from the 24th and others from the 30th June, were imposed on sugar and coffee, *viz.*

	s.	d.
Muscovado sugar, of the British colonies, imported, per hundred-weight	0	8
Ditto, sold at the East-India Company's sales	0	8
White or clayed sugar, of the British colonies, imported	4	0
Sugar of foreign colonies, on delivery from the warehouse for exportation	2	6
Sugar imported by the East-India Company, on ditto for ditto	6	6

It

* They afterwards really turned out much more productive. In April, 1798, two acres and a half of the Bourbon canes in St. Thomas in the Vale, one of the most exhausted parishes in Jamaica, yielded near eight hogsheads, of above sixteen hundred-weight each, of clear and strong-grained sugar; which gives above 5,700 pounds for the produce of each acre.

† By the kindness of a worthy friend I am enabled to insert the following extract of a letter from a gentleman of the greatest respectability in the island of Tobago, dated 20th September 1797.—"My properties here, "since we were restored to the British government, have become very valuable. I have for three years "averaged five hundred hogsheads of sugar, and a large proportion of rum. And the Bourbon canes are so "wonderful, that I expect from six to seven hundred hogsheads next year, if I can make them. This cane "passes wonder, and renders the appearance of the old canes unpleasant. I could not, as a planter, have "credited on report what I have witnessed of it."

Macpherson's Annals of Commerce.

It was also thought expedient to deduct 2*s.* 6*d.* per hundred-weight from the drawback allowed on the exportation of muscovado sugar; 2*s.* 6*d.* from the bounty on the exportation of bastard refined, ground, or powdered or broken sugar, and sugar-candy; and 4*s.* from the bounty on refined sugar exported. But the full drawback was allowed on sugars carried to Ireland. [c. 63.]

A.D. 1799, October 12th. The merchants of Liverpool appear to have suffered more by the stagnation of the sugar-trade than those of any other place in this kingdom, and the Parliament thought it necessary to grant them some relief. The expedient which had proved so beneficial some years before, was on this occasion again resorted to; Commissioners were appointed, and authorized to accommodate the merchants of Liverpool and Lancaster, who should apply to them, with exchequer bills to the amount of £500,000. on nearly the same terms which were prescribed in the year 1793. [39, 40 Geo. III., c. 5.]

The Parliament gave the distillers a temporary permission to use sugar and molasses, and allowed them a discount of 4¾*d.* out of certain duties, amounting to 1*s.* 2¾*d.* payable upon spirits made from molasses or sugar in England, with a proportionable allowance for spirits made partly of those materials and partly of corn. They also totally prohibited the use of wheat in England, and of all kinds of corn in Scotland, for the manufacture of spirituous liquors; and as it was fully as necessary to lessen by every means the consumption of corn as to promote the consumption of sugar, they allowed foreign starch to be imported, on paying a duty reduced from £5. 5*s.* 8*d.* to £3. 19*s.* 4*d.* per hundred-weight till the 20th of September 1800. [cc. 7, 8.] The permission to distil from sugar was continued till the 1st July 1801, by a subsequent act of this session.

A.D. 1800, May 30th. The duties on coffee and sugar exported, granted by the act 39 Geo. III. c. 63. were repealed, and the parliament ordered that those which had fallen due after the 13th October 1799 should not be paid. The Commissioners of the Customs are directed to take bonds for the duties upon British-plantation sugar, which must be lodged in warehouses approved by the Commissioners till the duties are paid, with interest at five per cent. reckoned from the date of the bond. The drawbacks on sugar exported, which had been withheld by the acts 36 and 39 Geo. III. were now allowed on all sugars shipped between 5th May and 10th November 1800; and also the duty on East-India sugar exported from the warehouses was now discontinued. In case of the average price of muscovado sugar being under 75*s.* for six weeks preceding the 10th November, the bounty on British plantation sugar, and exemption from duty for East-India sugar exported, are continued till the expiration of this act, which is declared to be on the 10th of May 1801. [c. 48.]

EXTRACTS *from* OBSERVATIONS *on the* TRADE *and* NAVIGATION *of* GREAT BRITAIN, *by* — GEE, 1729.

Trade between England and the Sugar Plantations.

Gee on Trade and Navigation.

OUR sugar plantations take from England all sorts of clothing, both linen, silks, and woollen; wrought iron, brass, copper; all sorts of household furniture, and a great part of their food; so that they are entirely dependent on us.

They send us sugar, ginger, and several commodities, enough for our own consumption, and formerly we re-exported as much as brought in several hundred thousand pounds yearly. They send us all the bullion and gold they can meet with, but rarely carry out any, and doubtless would produce a great many other commodities which we now have from India by way of Holland, as cinnamon, cloves, nutmegs, mace, coffee, &c. provided they were planted, and effectual care taken of them.

We gained the sugar trade from the Portuguese, who supplied most part of Europe with their Brazil sugars. According to Sir Joshua Child's account, they commonly imported into Europe one hundred or one hundred and twenty thousand chests annually, and sold their whites from seven to eight pounds per hundred; but as the English plantations increased in making sugars, they brought the price of those of the Brazils to fifty shillings, or three pounds per hundred; and since that time we have beat them out of almost all that trade on this side the Streights mouth. But still they have a considerable trade up the Levant, which is secured to them by being so much nearer those markets than we; and our Turkey merchants, as I am informed, buy considerable quantities of them, as well as of the French at Marseilles, which they transport to Turkey. But before we could beat the Brazil sugars out of those parts of Europe, our planters at Barbadoes and other islands were forced to sell theirs so low as six, seven, or eight shillings per hundred; and the low price the English sold theirs at discouraging the Brazil planters from going on, and putting them upon other methods of business,

business, they happened to find out their mines of gold, which have succeeded beyond expectation. The consumption of sugars increasing, gave us an opportunity of raising ours exceedingly. Gee on Trade and Navigation, 1729.

This advance of sugars encouraged the French to enlarge their plantations at Martinico, Guardalupa, &c., from whence France had not only a sufficient supply for their own consumption, but brought a considerable treasure into that kingdom.

This success put the French upon seizing part of the island of Hispaniola, which being very fertile, and proper for sugar, inclined some planters to settle there; but wanting stocks to transport themselves, and to erect works, we are told the king paid for the passage of all such as were willing to settle themselves and families in those colonies, with an allowance for provisions and other necessaries for maintaining them a whole year after their arrival, besides other large encouragements; which soon put them upon making such quantities of sugar, that they have of late years generally undersold us in the markets of Hamburgh, Holland, Flanders, &c., which about thirty-five or forty years ago were chiefly supplied by us. If a view was to be taken of our importation then, and our home consumption, I am informed, that two-thirds of what our plantations produced was re-exported. But when the war began with France our re-exportations very soon decreased, and the prize sugars taken by the French from us, not only helped to fill the markets we used to supply, but greatly enriched them.

As the declension of this trade is visible, and the danger of losing it too apparent, without some speedy care, I am humbly of opinion there can be no other way to retrieve it but by enlarging our plantations, and not only vie with the French in foreign markets, but if possible to beat them out, as we formerly did the Portuguese.

Our planters are so far from being concerned at the decay of our foreign trade, that they have complained too many sugars were made; and we may conclude will make what interest they can with their governors, and others, to prevent their making and settling any new plantations; if they can supply enough for home consumption at a great price, it answers their purpose. The island of Barbadoes is very much worn out, and does not afford the quantity of sugars as heretofore: and yet the planters live in great splendour, and at vast expense; while the French, under the remembrance of their poverty on their first settlement of Hispaniola, continue to live very frugally, and by their labour, industry, and fertility of their soil, are able to undersell us. The only places we can think of where we may enlarge our sugar plantations are Tobago, which is an extraordinary rich and fertile island, with an excellent harbour, abounding with good water; and we are told some of the Bahama islands would produce very good sugar, and very large tracts of land in Jamaica remain untouched, especially on the north side; but that which would enable us most effectually to retreive our supplying the markets of Europe, would be the raising sugar plantations on the south part of Carolina, provided the climate be hot enough for it.

We have made inquiry of a great many planters, who are generally of opinion that no country produces sugar where there are frosts; but, on the contrary, we are informed that the province of Nankin in China produces excellent sugars, though the country is so cold in winter, that it is said the great rivers have been frozen over, and that the province of Penjab, or Lahore, produces the best sugars in all India, as well as the best indigo in the world, which lies much about the same latitude with the southernmost parts of Carolina.

There have been sugars made upon the island of Madeira, as well as in Old Spain, where also they are subject to frosts.

If those countries produce sugars, I can see no reason why the southernmost part of Carolina should not produce them likewise; especially that fine tract of land bordering upon the river of Port Royal, a country abounding with provisions of all sorts, where negroes and servants may be maintained at a small charge.

It is highly worth making the experiment, to preserve a trade that has brought so much treasure into the kingdom; but this can never be done without the assistance of Government: for if France give those large bounties and encouragements to such as plant their settlements, having vast tracts of uncultivated land in Petitguavus, they will outdo any private planters from this kingdom.

It is said before the war ten or twelve millions of pounds was as much as we spent at home annually; but of late our consumption hath been about sixty millions of pounds, and our re-exportation scarcely one-sixth part of that.

For the better explanation of our importations of sugar, and the decay of the re-exportations, I thought it convenient to give here the imports and exports for the years 1720, 1721, and 1722, that every body may see the vast quantity we consume at home, and how our exportations are decreased; and I am informed the three preceding years, and three following, are more disadvantageous to us than those I have mentioned.

	Import.			Export.			Home Consumption,		
	Cwt.	q.	lb.	Cwt.	q.	lb.	Cwt.	q.	lb.
1720. ...	703,286	0	16	121,778	0	9	581,508	0	7
1721. ...	497,540	2	21	66,743	3	11	430,796	3	10
1722. ...	616,893	2	22	83,609	2	5	533,284	0	17

Gee on Trade and Navigation, 1729.

If we examine into the circumstances of the inhabitants of our plantations, and our own, it will appear that not one-fourth part of their product redounds to their own profit: for out of all that comes here, they only carry back clothing and other accommodations for their families, all which is of the manufacture and merchandize of this kingdom.

If any thing to spare, it is laid up here; and their children are sent home to be educated. If there is enough to support the family they come here, and only an overseer is left upon the plantation to direct, and the whole produce is remitted home; and if enough to purchase an estate, then it is laid out in Old England. All those advantages we receive by the plantations, besides the mortgages on the planters' estates, and the high interest they pay us, which is very considerable; and therefore very great care ought to be taken in regulating all affairs of the colonies, that the planters be not put under too many difficulties, but encouraged to go on cheerfully. They are born with us, or the descendants of such, and we know nothing but the want of the means to live at home keeps them abroad. There are very few trading or manufacturing towns in the kingdom but have some dependance on the plantation trade.

EXTRACTS *from* MR. EDWARDS' HISTORY *of the* BRITISH WEST-INDIES. 1819.

Edwards' History of the British West-Indies.

In treating of the agriculture of the West-Indian islands, the first object that naturally excites attention is the cane, which produces their great staple commodity, sugar, a plant which, from its commercial importance and general utility, we may venture to pronounce one of the most valuable in the creation. The ancient name of the cane was saccharum. This word was corrupted in monkish Latin, into zucharum, and afterwards into zucra. By the Spaniards it was converted into açucar, from whence sugar. The plant is a native of the east, and was probably cultivated in India and Arabia time immemorial. The sweet-cane is mentioned twice in the Old Testament as an article of merchandize; and there is a passage in Dioscorides, which seems to imply that the art of granulating the juice by evaporation was practised in his time: for he describes sugar as having the appearance of salt, and of being brittle to the teeth. Salis modo coactum est; dentibus ut sal fragile. Lucan, enumerating the eastern auxiliaries of Pompey, describes a people who used the cane-juice as a common drink,

Quique bibunt tenerâ dulces ab arundine succos.

Lafitau conjectures, however, that the plant itself was unknown in Christendom until the time of the Croisades. Its cultivation, and the method of expressing and purifying the juice, as practised by the inhabitants of Acra and Tripoli, are described by Albertus Aquensis, a monkish writer, who observes that the Christian soldiers in the Holy Land frequently derived refreshment and support, in a scarcity of provisions, by sucking the canes.* It flourished also in the Morea, and in the islands of Rhodes and Malta, and from thence was transported into Sicily; but the time is not precisely ascertained. Lafitau recites a donation of William, the second king of Sicily, to the monastery of St. Bennet, of a mill for grinding sugar-canes, with all its rights, members, and appurtenances. This happened in 1166.

From Sicily the Spaniards are said to have conveyed the cane to the Azores, Madeira, the Canary and Cape-de-Verd Islands, soon after they were discovered in the fifteenth century; and from some one of those islands it has been supposed to have found its way, at an early period, to Brasil and the West-Indies, "producing a commerce," says Lafitau, "which has proved more valuable than the mines of Peru."

Such is the commonly-received opinion respecting the history of this valuable production. Herrera positively asserts that the sugar cane was transplanted into Hispaniola from the Canary islands, in the year 1506, by a Spaniard of the name of Aguilon: but in this instance the respectable historian, however correct in general, is clearly mistaken; it appearing by the testimony of Peter Martyr, in the third book of his first Decad, written during Columbus's second expedition, which began in 1493 and ended in 1495, that the sugar-cane was, at that period, sufficiently known in Hispaniola.

The fact seems to have been, that Columbus himself carried it thither, among other articles and productions which he conveyed from Old Spain and the Canary islands, in his second voyage.

Although sugar-cane is not expressly enumerated by Martyr, it is evident that it was not considered by Columbus as a native of the country; for he could not possibly have been unacquainted with this production, which grew in great perfection in Valencia, and other parts of Spain; yet he found, it seems, on his arrival, no trees or plants in the newly-discovered country of which he had any previous knowledge, excepting only the

* The same author, in his account of the reign of Baldwin, relates that the Crusaders took eleven camels laden with sugar, so that it must have been made in considerable quantities.

the pine and the palm. That the cane was then there, appears from a passage, in which, speaking of such vegetable productions as the Spaniards had sown or planted in an enclosed garden immediately after their arrival, Martyr has these words, which are, as I conceive, decisive of the question. "Melones, cucurbitas, cucumeres, et alia "id genus, in diem sextum et trigesimum carpserunt. Sed nusquam se meliores unquam "comedisse aiebant. Hæc hortensia, toto anno habent recentia. Cannarum radices, "ex quarum succo saccarum extorquetur, sed non coagulater succus, cubitales cannas "intra quindecimum etiam diem emiserunt." Edwards' History of the British West-Indies.

On the other hand, there are authors of great learning and industry, who maintain that the sugar-cane is a native both of the islands and the continent of America within the tropics. They assert, that it was found growing spontaneously in many parts of the new hemisphere, when first explored by the Spanish invaders. P. Labat, who appears to have considered the question with a laborious attention, is decidedly of this opinion, and he quotes, in support of it, among other authorities, that of Thomas Gage, an Englisman who went to New Spain in 1625. Gage's voyage is now before me, and it is certain that he enumerates sugar-canes among the fruits and provisions supplied the crew of his ship by the Charaibes of Guadaloupe. "Now," observes Labat, "it is a fact "that the Spaniards had never cultivated an inch of ground in the smaller Antilles. "Their ships commonly touched at those islands indeed, for wood and water, and they "left swine, in the view of supplying with fresh provisions such of their countrymen as "might call there in future; but it were absurd in the highest degree to suppose, "that they would plant sugar-canes, and put hogs ashore at the same time to destroy "them.

"Neither had the Spaniards any motive for bestowing this plant on islands which they "considered as of no kind of importance except for the purpose that has been mentioned; "and to suppose that the Charaibes might have cultivated, after their departure, a pro- "duction of which they knew nothing, betrays a total ignorance of the Indian disposition "and character.

"But," continues Labat, "we have surer testimony, and such as proves, beyond all "contradiction, that the sugar-cane is the natural production of America. For, besides "the evidence of Francis Ximenes, who, in a treatise on American plants, printed at "Mexico, asserts that the sugar-cane grows without cultivation, and to an extraor- "dinary size, on the banks of the river Plate,* we are assured by Jean de Lery, a protes- "tant minister, who was chaplain, in 1556, to the Dutch garrison in the fort of Coligny, "on the river Janeiro, that he himself found sugar in great abundance in many places on "the banks of that river, and in situations never visited by the Portuguese. Father "Hennepen and other voyagers, bear testimony in like manner to the growth of the cane "near the mouth of the Mississippi, and Jean de Laet to its spontaneous production in "the island of St. Vincent. It is not for the plant itself, therefore, but for the secret of "making sugar from it, that the West-Indies are indebted to the Spaniards and Portu- "guese, and these to the nations of the east."

Such is the reasoning of Labat, which the learned Lafitau has pronounced incontrovertible; and it is greatly strengthened by recent discoveries, the sugar-cane having been found in many of the islands of the Pacific Ocean, by our late illustrious navigator Captain Cook.

In these accounts, however, there is no contradiction. The sugar-cane might have grown spontaneously in many parts of the new world; and Columbus, unapprized of the circumstance, might likewise have carried some of the plants to Hispaniola, and such I believe was the fact. But be this as it may, the industry with which the Spanish settlers applied themselves to its cultivation, affords a wonderful contrast to the manners of the present inhabitants; it appearing by the testimony of Oviedo, that no less than thirty ingenios, or sugar-mills, were established on that island so early as 1535.

The botanical name of the sugar-cane is Arundo Saccharifera. It is a jointed reed terminating in leaves or blades, whose edges are finely and sharply serrated. The body of the cane is strong but brittle, and when ripe of a fine straw colour, inclinable to yellow; and it contains a soft pithy substance, which affords a copious supply of juice, of a sweetness the least cloying and most agreeable in nature. The intermediate distance between each joint of the cane varies according to the nature of the soil; in general it is from one to three inches in length, and from half an inch to an inch in diameter. The length of the whole cane depends likewise upon circumstances. In strong lands and lands richly manured, I have seen some that measured twelve feet from the stole to the upper joint. The general height, however (the flag part excluded) is from three feet and a half to seven feet, and in very rich lands the stole or root has been known to put forth upwards of one hundred suckers or shoots.†

It

* Piso observes, "In provincia Rio de la Plata, cannas sacchari sponte enasci adolescereque in arboris pro- "ceritatem, atque chrystalla saccharea æstu solis exsudare, constat."

† The tops of canes sometimes shoot up in arrows, decorated at the top with a pinnacle, the glumes of which contain a whitish dust, or rather seed; yet these being sowed never vegetate, as I have heard, in the West-Indian islands: a circumstance which perhaps may be adduced as a proof that the cane is not the spontaneous production of this part of the world. In Abyssinia and other parts of the east it is easily raised from the seed. (Vid. Bruce's Travels.) Sir Joseph Banks has satisfied me that there are several varieties existing in

Edwards' History of the British West-Indies.

It may be supposed that a plant thus rank and succulent, requires a strong and deep soil to bring it to perfection; and, as far as my observation has extended, I am of opinion that no land can be too rich for that purpose. When bad sugar is made from fat and fertile soils, properly situated, I am inclined to impute the blame rather to mismanagement in the manufacture than to the land. The very best soil, however, that I have seen or heard of, for the production of sugar of the finest quality, and in the largest proportion, is the ashy loam of St. Christopher's. Next to that, is the soil which in Jamaica is called brick-mould; not as resembling a brick in colour, but as containing such a due mixture of clay and sand, as is supposed to render it well adapted for the use of the kiln. It is a deep, warm, and mellow, hazel earth, easily worked; and though its surface soon grows dry after rain, the under stratum retains a considerable degree of moisture in the dryest weather; with this advantage, too, that even in the wettest season it seldom requires trenching. Plant canes in this soil, (which are those of the first growth) have been known in very fine seasons to yield two tons and a half of sugar per acre.*

After this may be reckoned the black mould of several varieties. The best is the deep black earth of Barbadoes, Antigua, and some other of the Windward Islands; but there is a species of this mould in Jamaica that is but little, if any thing, inferior to it, which abounds with lime-stone and flint, on a substratum of soapy marle. Black mould on clay is more common; but as the mould is generally shallow, and the clay stiff and retentive of water, this last sort of land requires great labour, both in ploughing and trenching, to render it profitable. Properly pulverized and manured it becomes very productive, and may be said to be inexhaustible. It were endless to attempt a minute description of all the other soils which are found in these islands.

There is, however, a peculiar sort of land on the north side of Jamaica, chiefly in the parish of Trelawney, that cannot be passed over unnoticed, not only on account of its scarcity, but its value; few soils producing finer sugars, or such (I have been told by sugar refiners) as answer so well in the pan—an expression signifying, as I understand, in a greater return of refined sugar than common. The land alluded to is generally of a red colour, the shades of which however vary considerably, from a deep chocolate to a rich scarlet; in some places it approaches to a bright yellow, but it is every where remarkable, when first turned up, for a glossy or shining surface, and if wetted stains the fingers like paint. I have selected specimens, which are hardly distinguishable by the eye or the touch, from the substance called gamboge. Earths of various shades of red and yellow, are found indeed in many other parts of the West-Indies, but in none of them are observed the same glossy appearance and cohesion as in the soil in question, which appears to me to consist of a native earth or pure loam with a mixture of clay and sand It is easily worked, and at the same time so tenacious, that a pond dug in this soil in a proper situation, with no other bottom than its own natural texture, holds water like the stiffest clay. It is remarkable, however, that the same degree of ploughing or pulverization which is absolutely necessary to render stiff and clayey lands productive, is here not only unnecessary, but hurtful: for though this soil is deep, it is at the same time far from being heavy; and it is naturally dry. As therefore too much exposure to the scorching influence of a tropical sun destroys its fertility, the system of husbandry on sugar plantations, in which this soil abounds is to depend chiefly on what are called ratoon canes.† Ratoons are the sprouts or suckers that spring from the roots or stoles of the canes that have been previously cut for sugar, and are commonly ripe in twelve months; canes of the first growth are called plant canes. They are the immediate produce of the original plants or germs placed in the ground, and require from fifteen to eighteen months to bring them to maturity.

The first yearly return from their roots are called first ratoons; the second year's growth second ratoons, and so on according to their age. In most parts of the West-Indies it is usual to hole and plant a certain proportion of the cane land (commonly one-third) in annual succession. This, in the common mode of holing the ground by the hoe, is frequently attended with great and excessive labour to the negroes, which is saved altogether by the system we are treating of; by the latter method the planter, instead of stocking up his ratoons and holing and planting the land anew, suffers the stoles to continue in the ground, and contents himself, as his cane fields become thin and impoverished, by supplying the vacant spaces with fresh plants; by these means, and the aid of manure, the produce of sugar per acre, if not apparently equal to that from the best plant canes in other soils, gives perhaps in the long run full as great returns to the owner, considering the relative proportion of the labour and expense attending

in the cane with which we are wholly unacquainted in the West-Indies. I have seen, in his possession, a dried specimen that was brought originally from the South Seas, which, as far as can be judged by its present appearance, is of a far superior sort to the species cultivated in our islands. It is not only of greater length in the whole, but the distance between the joints is nearly twice as great as in the finest canes I ever beheld.

* This species of soil abounds very generally in the French part of Hispaniola, which gives that noble island so great a superiority over most of our own sugar colonies. In Jamaica it is confined to a few parishes, and in those parishes to particular spots. In some places this sort of land is rather gravelly: but this circumstance, if the seasons are favourable, is of no great disadvantage.

† So called from being rejettons or sprouts, rej'ttons, re't-tons, rattons; or more probably from a corrupt pronunciation of the Spanish word brotones, which has the same signification.

attending the different systems. The common yielding of this land, on an average, is seven hogsheads of sixteen cwt. to ten acres, which are cut annually. Edwards' History of the British West-Indies.

In the cultivation of other lands (in Jamaica especially) the plough has been introduced of late years, and in some few cases to great advantage; but it is not every soil or situation that will admit the use of the plough, some lands being much too stony, and others too steep; and I am sorry I have occasion to remark, that a practice commonly prevails in Jamaica, on properties where this auxiliary is used, which would exhaust the finest lands in the world: it is that of ploughing, then cross-ploughing, round-ridging, and harrowing the same lands from year to year, or at least every other year, without affording manure; accordingly, it is found that this method is utterly destructive of the ratoon, or second growth, and altogether ruinous. It is indeed astonishing that any planter, of common reading or observation, should be passive under so pernicious a system. Some gentlemen, however, of late manage better: their practice is to break up stiff and clayey land, by one or two ploughings, early in the spring, and give it a summer's fallow. In the autumn following, being then mellow and more easily worked, it is holed and planted by manual labour, after the old method, which shall be presently described. But, in truth, the only advantageous system of ploughing in the West-Indies, is to confine it to the simple operation of holing, which may certainly be performed with much greater facility and dispatch by the plough than by the hoe; and the relief which, in the case of stiff and dry soils, is thus given to the negroes, exceeds all estimation, in the mind of a humane and provident owner. On this subject I speak from practical knowledge. At a plantation of my own, the greatest part of the land which is annually planted is neatly and sufficiently laid into cane-holes, by the labour of one able man, three boys, and eight oxen, with the common single-wheeled plough. The plough-share indeed is somewhat wider than usual, but this is the only difference, and the method of ploughing is the simplest possible. By returning the plough back along the furrow, the turf is alternately thrown to the right and to the left, forming a trench seven inches deep, about two feet and a half wide at the top, and one foot wide at the bottom. A space of eighteen or twenty inches is left between each trench, on which the mould being thrown by the share, the banks are properly formed, and the holing is complete. Thus the land is not exhausted by being too much exposed to the sun; and in this manner a field of twenty acres is holed with one plough, and with great ease, in thirteen days. The plants are afterwards placed in the trench, as in the common method, which remains to be described.

The usual mode of holing by manual labour is this. The quantity of land intended to be planted being cleared of weeds and other incumbrances, is divided into several plats of certain dimensions, commonly from fifteen to twenty acres each; the spaces between each plat or division are left wide enough for roads, for the conveniency of carting. Each plat is then subdivided, by means of a line and wooden pegs, into small squares of about three feet and a half; sometimes, indeed, the squares are a foot larger: but this circumstance makes but little difference. The negroes are then placed in a row in the first line, one negro to a square, and directed to dig out with their hoes the several squares, commonly to the depth of five or six inches. The mould which is dug up being formed into a bank at the lower side, the excavation or cane-hole seldom exceeds fifteen inches in width at the bottom, and two feet and a half at the top; the negroes then fall back to the next line, and proceed as before. Thus the several squares between each line are formed into a trench of much the same dimension with that which is made by the plough. An able negro will dig from sixty to eighty of these holes for his day's work of ten hours: but if the land has been previously ploughed and lain fallow, the same negro will dig nearly double the number in the same time.*

The cane-holes or trench being now completed, whether by the plough or by the hoe, and the cuttings selected for planting, which are commonly the tops of the canes that have been ground for sugar (each cutting containing five or six germs), two of them are sufficient for a cane-hole of the dimensions described.† These being placed longi-

* As the negroes work at this business very unequally, according to their different degrees of bodily strength, it is sometimes the practice to put two negroes to a single square; but if the land has not had the previous assistance of the plough, it commonly requires the labour of fifty or sixty able negroes for twenty days to hole twenty acres. It is reckoned a tolerable days' work for forty negroes to hole an acre in the course of a day. In Jamaica some gentlemen, to ease their own slaves, have this laborious part of the planting business performed by job work; the usual price for holing and planting is from eight to ten pounds currency per acre; the cost of falling and clearing heavy wood-land is commonly as much more.

† It is a maxim with some people to plant thin on poor lands, and thick in rich: but it is a maxim founded in error. They suppose that the richer the soil is, the greater number of plants it will maintain: which is true enough; but they forget that the plant itself will, in such soils, put forth shoots in abundance: most of which, if the lands are not over planted, will come to perfection; whereas from thick planting in rich mould the shoots choke and destroy each other. On the other hand, in soils where the canes will not stock (*viz.* put out fresh shoots), the overseer must supply the greater number of plants in the first instance, or the produce will be little or nothing. To what has been said in the text concerning the method of holing it may not be improper to add the following particulars. A square acre contains 43,560 feet; therefore, to know the exact number of holes which an acre will admit, the rule is, to multiply the length of each hole by the breadth, as thus: Suppose you line four feet one way, and three feet the other; then four multiplied by three makes twelve square feet, and 43,560 divided by twelve, gives 3,630 holes. These are large holes, and if the land is dry and stiff, an able negro will not be able to dig more than sixty such in his day's work. It will require, therefore, in such land, just sixty negroes to hole an acre in a day. The richer the land is, the wider you line, of course the fewer holes to an acre; four feet by four feet gives 2,722 holes.

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tudinally in the bottom of the hole, are covered with mould about two inches deep, the rest of the bank being intended for future use. In twelve or fourteen days the young sprouts begin to appear, and as soon as they rise a few inches above the ground they are, or ought to be, carefully cleared of weeds, and furnished with an addition of mould from the banks; this is usually performed by the hand. At the end of four or five months the banks are wholly levelled, and the spaces between the rows carefully hoe-ploughed. Frequent cleanings, while the canes are young, are indeed so essentially necessary, that no other merit in an overseer can compensate for the want of attention to this particular. A careful manager will remove at the same time all the lateral shoots or suckers that spring up after the canes begin to joint, as they seldom come to maturity, and draw nourishment from the original plants.

The properest season, generally speaking, for planting, is unquestionably in the interval between August and the beginning of November. By having the advantage of the autumnal seasons, the young canes become sufficiently luxuriant to shade the ground before the dry weather sets in. Thus the roots are kept cool, and the earth moist. By this means, too, they are ripe for the mill in the beginning of the second year, so as to enable the overseer or manager to finish his crop (except as to the few canes which are reserved to furnish cuttings or tops for planting) by the latter end of May. Canes planted in and after November lose the advantage of the autumnal rains, and it often happens that dry weather in the beginning of the ensuing year retards their vegetation, until the vernal season, or May rains set in, when they sprout both at the roots and the joints; so that by the time they are cut, the field is loaded with unripe suckers, intead of sugar-canes. A January plant, however, commonly turns out well; but canes planted very late in the spring, though they have the benefit of the May rains, seldom answer expectation, for they generally come in unseasonably and throw the ensuing crops out of regular rotation. They are therefore frequently cut before they are ripe, or, if the autumnal seasons set in early, are cut in wet weather, which has probably occasioned them to spring afresh; in either case the effect is the same: the juice is unconcocted; and all the sap being in motion, the root is deprived of its natural nourishment, to the great injury of the ratoon. The chief objection to a fall plant is this, that the canes become rank and top-heavy at a period when violent rains and high winds are expected, and are therefore frequently lodged before they are fit to cut. The observation, when applied to canes planted in rich and new lands, is just, and on this account some gentlemen have introduced the following system. They plant in August and September, clean the young sprouts, and give them mould occasionally, until the beginning of January, when they cut the young plants close to the ground with knives and level the bank, spreading the remainder of the mould over the roots, which soon afterwards send out a number of vigorous and luxuriant shoots all of an equal growth. It is alleged, that by this means the cane is not too rank in the stormy months, and nevertheless comes to perfection in good time the succeeding spring.

On the whole, it is a striking and just remark of Colonel Martin, that there is not a greater error in the system of planting, than to make sugar or to plant canes in improper seasons of the year, for by mismanagement of this kind every succeeding crop is put out of regular order. A plantation, he observes, ought to be considered as a well-constructed machine, compounded of various wheels, turning different ways, yet all contributing to the great end proposed; but if any one part runs too fast, or too slow, in proportion to the rest, the main purpose is defeated. It is in vain, continues he, to plead in excuse the want of hands or cattle; because these wants must either be supplied, or the planter must contract his views, and proportion them to his ability; for the attempt to do more than can be attained will lead into perpetual disorder, and terminate in poverty.

Unfortunately, however, neither prudence in the management, nor favourable soils, nor seasonable weather, will at all times exempt the planter from misfortunes. The sugar-cane is subject to a disease which no foresight can obviate, and for which human wisdom has hitherto, I fear, attempted in vain to find a remedy. This calamity is called the blast; it is the aphis of Linnæus, and is distinguished into two kinds, the black and the yellow, of which the latter is the most destructive; it consists of myriads of little insects, invisible to the naked eye, whose proper food is the juice of of the cane, in search of which they wound the tender blades, and consequently destroy the vessels. Hence the circulation being impeded, the growth of the plant is checked, until it withers or dies, in proportion to the degree of the ravage.*

Hitherto I have said nothing of a very important branch in the sugar planting, I mean the method of manuring the lands. The necessity of giving even the best soil occasional assistance is universally admitted, and the usual way of doing it in the West-Indies is now to be described.

The manure generally used is a compost formed, 1st. of the coal and vegetable ashes, drawn from the fires of the boiling and still-houses, 2d. Feculences discharged from

* In some of the Windward Islands, the cane in very dry weather is liable to be destroyed also by a species of grub called the borer. This calamity is fortunately unknown, at least to any extent, in Jamaica: and never having seen it, I can give no certain description of it. I conceive the insect to be the eruca minima è rubro fusca of Sloane. In Tobago, they have another destructive insect called the jumper fly.

from the still-house, mixed up with rubbish of buildings, white-lime, &c. 3d. Refuse, or field trash, *i. e.* the decayed leaves and stems of the canes; so called in contra-distinction to cane-trash, reserved for fuel, and hereafter to be described. 4th. Dung obtained from the horse and mule stables, and from moveable pens, or small inclosures made by posts and rails, occasionally shifted upon the lands intended to be planted, and into which the cattle are turned at night. 5th. Good mould collected from gullies and other waste places, and thrown into the cattle-pens.

The first, *i. e.* ashes, is commonly supposed to be a manure of itself, well adapted for cold and stiff clays; and in some parts of Jamaica it is the practice, in the fall of the year, to carry it out unmixed in cart loads, to the lands where it is intended to be used. It is left there (or in some spot adjoining), in large heaps, until the land is holed, after which a basket-full, containing commonly from fifteen to twenty pounds, is thrown into each cane-hole, and mixed with the mould at the time the plants are put into the ground. It may be doubted, however, whether ashes applied in this manner are of much advantage: I have been told, that if the land is opened five years afterwards, they will be found undissolved.* At other times wain-loads of the compost, or dunghill before-mentioned, are carried out and used in nearly the same manner as the ashes.

But the chief dependence of the Jamaica planter, in manuring his lands, is on moveable pens, or occasional enclosures: not so much for the quantity of dung collected by means of those enclosures, as for the advantage of the urine from the cattle (the best of all manures), and the labour which is saved by this system. I believe, indeed, there are a great many overseers who give their land no aid of any kind, other than that of shifting the cattle from one pen to another, on the spot intended for planting, during three or four months before it is ploughed or holed.†

What has hitherto been said, however, relates solely to the method of preparing lands for plant-canes. Those who trust chiefly to ratoons, find it as necessary to give their cane-fields attention and assistance from the time the canes are cut, as it was before they were planted. It is the advice of Colonel Martin, so soon as the canes are carried to the mill, to cut off, by a sharp hoe, all the heads of the cane-stools three inches below the surface of the soil, and then fill up the hole with fine mould, by which means, he thinks that all the sprouts rising from below will derive more nutriment, and grow more equally and vigorously than otherwise. I know not that this advice is adopted in any of the sugar islands; it is the practice, however, in many parts of Jamaica, to spread baskets full of dung round the stools, so soon after the canes have been cut as circumstances will admit, and the ground has been refreshed by rains; in dry and scorching weather it would be labour lost. The young sprouts are at the same time cleared of weeds, and the dung which is spread round them being covered with cane-trash, that its virtues may not be exhaled by the sun, is found at the end of three or four months to be soaked into and incorporated with the mould. At this period the ratoons are again well cleaned, and the spaces between the ranks effectually hoe-ploughed, after which very little care is thought requisite until the canes are fit for cutting; the ancient practice of trashing ratoons, *i. e.* stripping them of their outward leaves, being of late very generally and justly exploded.

Such is the general system of preparing and manuring the lands of Jamaica. I have been told that more attention is paid to this branch of husbandry in some of the islands to windward; but I suspect that there is, in all of them, very great room for improvement, by means of a judicious rotation of crops and artificial assistance. Why, for instance, are not the manures of lime and sea-sand, which abound in these islands, and have been found so exceedingly beneficial in Great Britain, brought into use? Limestone alone, even without burning (the expense of which might perhaps be an objection), has been found to answer in cold, heavy, and moist lands; no other trouble being requisite than merely to spread it over the ground, and break it into small pieces by sledge-hammers: of this the quantities are inexhaustible. Marle is another manure of vast and general utility in Great Britain. It enriches the poorest lands, opens the stiffest, and sweetens and corrects the most rank. Lands have been raised by the use of this manure from two shillings per acre to a guinea, annual rent. Now there is no country under the sun wherein a soft unctuous marle more abounds than in Jamaica. To the question, why no trial has yet been made of it, no better answer, I believe, can be given, than that the planters in general have no leisure for experiment, and that it is difficult to make agents and servants (who have every thing to risk, and nothing to gain) walk out of

* On wet lands, not easily trenched, ashes may be useful in absorbing superfluous moisture, and may therefore sometimes prove a good top-dressing.

† This, however, is by no means sufficient on plantations that have been much worn and exhausted by cultivation; and perhaps there is no branch in the planting business wherein attention and systematic arrangement as saving both time and labour, are more necessary, than in collecting and preparing large quantities of dung from the sources and materials before described. In spreading the manure thus collected, the common allowance in the Windward Islands (where this part of husbandry is best understood) is a square foot of dung to each cane-hole, so that by knowing the number of holes in an acre of land, and the number of square feet in a dung-heap, the manure may be proportioned to the ground; nothing is more easy than to ascertain the number of square feet in a dung-heap. Multiply the length by the breadth, and the produce by the height. Thus, 30 feet the length, multiplied by 30 feet the breadth, gives 900 feet, which being multiplied by four feet the height, gives 3,600 feet, the full contents; this explanation is added for the use of the plain, practical planter, who perhaps has had no great opportunity of studying arithmetical calculation.

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of the sure and beaten track of daily practice. Every man's experience confirms this observation.

It is now time to conduct the reader from the field into the boiling-house, and convert the farmer into the manufacturer.

The time of crop in the sugar islands is the season of gladness and festivity to man and beast. So palatable, salutary, and nourishing is the juice of the cane, that every individual of the animal creation, drinking freely of it, derives health and vigour from its use. The meagre and sickly among the negroes exhibit a surprising alteration in a few weeks after the mill is set in action. The labouring horses, oxen, and mules, though almost constantly at work during this season, yet being indulged with plenty of the green top of this noble plant, and some of the scummings from the boiling-house, improve more than at any other period of the year. Even the pigs and poultry fatten on the refuse. In short, on a well regulated plantation, under a humane and benevolent director, there is such an appearance during crop-time of health, plenty, and busy cheerfulness, as to soften, in a great measure, the hardships of slavery, and induce a spectator to hope, when the miseries of life are represented as insupportable, that they are sometimes exaggerated through the medium of fancy.

The great obstacle, at this season, to the progress of such of the planters as are not happily furnished with the means of grinding their canes by water, is the frequent failure or insufficiency of their mills: for though a sugar-mill, whether worked by water, wind, or cattle, is a very simple contrivance, great force is nevertheless requisite to make it overcome the resistance which it necessarily meets with. It consists principally of three upright iron-plated rollers or cylinders, from thirty to forty inches in length, and from twenty to twenty-five inches in diameter; and the middle one, to which the moving power is applied, turns the other two by means of cogs. Between these rollers the canes (being previously cut short, and tied into bundles) are twice compressed; for, having passed through the first and second rollers, they are turned round the middle one by a circular piece of frame-work, or screen, called in Jamaica the dumb-returner, and forced back through the second and third; an operation which squeezes them completely dry, and sometimes even reduces them to powder. The cane-juice is received in a leaden bed, and thence conveyed into a vessel called the receiver. The refuse, or macerated rind of the cane (which is called cane-trash in contra-distinction to field-trash) serves for fuel to boil the liquor.

The juice from the mill ordinarily contains eight parts of pure water, one part of sugar, and one part more of gross oil and mucilaginous gum, with a portion of essential oil. The proportions are taken at a medium: for some juice has been so rich as to make a hogshead of sugar from thirteen hundred gallons, and some so watery as to require more than double that quantity. By a hogshead I mean sixteen hundred-weight. The richer the juice is, the more free it is found from redundant oil and gum; so that an exact analysis of any one quantity of juice would convey very little knowledge of the contents of any other quantity.*

The above component parts are natural to and are found in all cane-juice; besides which the following matters are usually contained in it; some of the bands or green tops, which serve to tie the canes in bundles, are frequently ground in, and yield a raw acid juice, exceedingly disposed to ferment, and render the whole liquor sour; some pieces of the trash or ligneous part of the cane; some dirt; and lastly, a substance of some importance, which, as it has no name, I will call the crust. The crust is a thin black coat of matter that surrounds the cane between the joints, beginning at each joint, and gradually growing thinner the farther from the joint upwards, till the upper part between the joints appears entirely free from it, and resumes its bright yellow colour: it is frequently thick enough to be scaled off by the point of a penknife: it is a fine black powder, that mixes with the clammy exudations perspired from the cane, and is most probably produced by animalcules. As the fairness of the sugar is one of the marks of its goodness, a small quantity of such a substance must considerably prejudice the commodity.

The process for obtaining the sugar is thus conducted. The juice or liquor runs from the receiver to the boiling-house along a wooden gutter lined with lead. In the boiling-house it is received (according to the modern improved system, which almost universally prevails in Jamaica) into one of the copper pans or cauldrons called clarifiers; of these there are commonly three, and their dimensions are generally determined by the power of supplying them with liquor. There are water-mills that will grind with great ease, canes sufficient for thirty hogsheads of sugar in a week. On plantations thus happily provided, the means of quick boiling are indispensably requisite, or the cane liquor will unavoidably become tainted before it can be exposed to the fire. The purest cane-juice will not remain twenty minutes in the receiver without fermenting: clarifiers, therefore, are sometimes seen of one thousand gallons each. But as powers of the extent described are uncommon, I shall rather confine myself to such properties as fall within the reach of daily observation; to plantations, for instance, that make on a medium, during crop-time, from fifteen to twenty hogsheads of sugar a week. On such estates, three clarifiers

* A pound of sugar from a gallon of raw liquor, is reckoned in Jamaica very good yielding. Sugar chemically analyzed, yields phlegm, acid, oil, and spongy glossy charcoal.

clarifiers of three or four hundred gallons each are sufficient. With pans of this size, the liquor, when clarified, may be drawn off at once, and there is leisure to cleanse the vessels every time they are used. Each clarifier is provided either with a syphon or cock for drawing off the liquor. It has a flat bottom, and is hung to a separate fire-chimney having an iron slider, which being shut, the fire goes out for want of air. These circumstances are indispensable, and the advantages of them will presently be shewn. * Edwards' History of the British West-Indies.

The stream then from the receiver having filled the clarifier with the fresh liquor, and the fire being lighted, the temper, which is commonly Bristol white-lime in powder, is stirred into it. One great intention of this is to neutralize the superabundant acid, and which to get properly rid of, is the great difficulty in sugar-making. This is generally effected by the alkali or lime; part of which, at the same time, becomes the basis of the sugar. The quantity necessary for this purpose, must of course vary with the quality both of the lime and of the cane liquor: some planters allow a pint of Bristol lime to every hundred gallons of liquor; but this proportion, I believe, is generally found too large. The lime is perceptible in the sugar, both to the smell and taste, precipitates in the copper pans a black insoluble calx, which scorches the bottom of the vessels, and is not detached without difficulty. I conceive, therefore, that little more than half the quantity mentioned above is a better medium proportion, and in order that less of it may be precipitated to the bottom, an inconveniency attending the use of dry lime, Mr. Bousie's method of dissolving it in boiling water, previous to mixing it with the cane-juice, appears to me to be highly judicious. †

As the fire increases in force and the liquor grows hot, a scum is thrown up, which is formed of the mucilage or gummy matter of the cane, with some of the oil, and such impurities as the mucilage is capable of entangling. The heat is now suffered gradually to increase, until it rises to within a few degrees of the heat of boiling water. The liquor must by no means be suffered to boil; it is known to be sufficiently heated when the scum begins to rise into blisters, which break into white froth, and appear in general in about forty minutes; the damper is then applied, and the fire extinguished, after which the liquor is suffered to remain a full hour, if circumstances will admit, undisturbed; during this interval, great part of the feculencies and impurities will attract each other, and rise in the scum. The liquor is now carefully drawn off, either by a syphon, which draws up a pure defecated stream through the scum, or by means of a cock at the bottom; in either case the scum sinks down unbroken as the liquor flows; its tenacity preventing any admixture. The liquor is received into a gutter or channel, which conveys it to the evaporating boiler, commonly called the grand copper, and, if originally produced from good and untainted canes, will now appear almost, if not perfectly, transparent.

The advantage of clarifying the liquor in this manner, instead of forcing an immediate ebullition, as practised formerly, is visible to the most inattentive observer. The labour which it saves in scumming is wonderful, neither can scumming properly cleanse the subject; for when the liquor boils violently, the whole body of it circulates with such rapidity, as to carry down again the very impurities that had come up to the surface, and with a less violent heat would have stayed there.

In the grand or evaporating copper, which should be large enough to receive the net contents of one of the clarifiers, the liquor is suffered to boil; and as the scum rises, it is continually taken off by large scummers, until the liquor grows finer and somewhat thicker. This labour is continued until, from the scumming and evaporation, the subject is sufficiently reduced in quantity to be contained in the next or second copper, into which it is then laded; the liquor is now nearly of the colour of Madeira wine. In the second copper the boiling and scumming are continued; and if the subject is not so clean as is expected, lime-water is thrown into it. This addition is intended not merely to give more temper, but also to dilute the liquor, which sometimes thickens too fast

* The clarifiers are commonly placed in the middle, or at one end of the boiling-house. If at one end, the boiler called the teache is placed at the other, and several boilers (generally three) are ranged between them. The teache is ordinarily from 70 to 100 gallons, and the boilers between the clarifiers and teache diminish in size from the first to the last; where the clarifiers are in the middle, there is usually a set of three boilers on each side, which constitute in effect a double boiling-house. On very large estates, this arrangement is found useful and necessary. The objection to so great a number is the expense of fuel; to obviate which, in some degree, the three boilers on each side of the clarifiers are commonly hung to one fire.

† This gentleman (Mr. Bousie), to whom the Assembly of Jamaica gave £1,000 for his improvements in the art of sugar-boiling, in a paper distributed by him among the members recommends the use of a vegetable alkali, or ashes of wood calcinated, such as pimento-tree, dumb-cane, fern-tree, cashew, or logwood, as affording a better temper than quicklime; but he was afterwards sensible that sugar formed on the basis of fixed alkaline salts never stands the sea unless some earth is joined with the salts. Such earth as approaches nearest to that which is the basis of alum would perhaps be most proper. As sugar on a vegetable alkaline basis, is generally as much superior in colour, as that on lime is in grain, how far a judicious mixture of vegetable alkaline salts and lime might prove a better temper than either lime or alkaline salts alone, is an inquiry that ought to be pursued. If there were no redundant acid in cane-liquor, lime and any other alkali would be hurtful, as may be shewn by adding a few grains of lime or alkali to a clear solution of refined sugar, a precipitation will ensue. In some parts of Jamaica, where the cane-liquor was exceedingly rich, Mr. Bousie made very good sugar without a particle of temper. I have said that too much temper is perceptible in the sugar, both to the smell and taste; it might be added, and also to the sight. It tinges the liquor first yellow, and if in excess, turns it to a dark red. Too much temper likewise prevents the molasses from separating from the sugar when it is potted or put into the hogshead.

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to permit the feculencies to run together and rise in the scum. Liquor is said to have a good appearance in the second copper, when the froth in boiling arises in large bubbles, and is but little discoloured. When from such scumming and evaporation, the liquor is again sufficiently reduced to be contained in the third copper, it is laded into it, and so on to the last copper, which is called the teache. This arrangement supposes four boilers or coppers, exclusive of the three clarifiers.

In the teache the subject is still further evaporated, till it is judged sufficiently boiled to be removed from the fire: this operation is usually called striking, i. e. lading the liquor, now exceedingly thick, into the cooler.

The cooler, of which there are commonly six, is a shallow wooden vessel, about eleven inches deep, seven feet in length, and from five to six feet wide: a cooler of this size holds a hogshead of sugar. Here the sugar grains, i. e. as it cools, runs into a coarse irregular mass of semiformed crystals, separating itself from the molasses. From the cooler it is carried to the curing-house, where the molasses drain from it.*

But before we follow it into the curing-house, it may be proper to notice the rule for judging when the subject is sufficiently evaporated for striking, or become fit for being laded from the teache to the cooler. Many of the negro boilers guess solely by the eye (which by long habit they do with great accuracy), judging by the appearance of the grain on the back of the ladle; but the practice most in use is to judge by what is called the touch; i. e. taking up with the thumb a small portion of the hot liquor from the ladle; and as the heat diminishes, drawing with the fore-finger the liquid into a thread; this thread will suddenly break, and shrink from the thumb to the suspended finger, in different lengths, according as the liquor is more or less boiled. The proper boiling height for strong muscovado sugar, is generally determined by a thread of a quarter of an inch long. It is evident that certainty in this experiment can be attained only by long habit, and that no verbal precepts will furnish any degree of skill in a matter depending wholly on constant practice.

I now return to the curing-house, which is a large airy building, provided with a capacious molasses cistern, the sides of which are sloped and lined with terras, or boards. Over this cistern there is a frame of massy joistwork without boarding. On the joists of this frame, empty hogsheads, without headings are ranged. In the bottoms of these hogsheads eight or ten holes are bored, through each of which the stock of a plantain leaf is thrust, six or eight inches below the joists, and is long enough to stand upright above the top of the hogshead. Into these hogsheads the mass from the cooler is put, which is called potting; and the molasses drains through the spongy stalk, and drops into the cistern, from whence it is occasionally taken for distillation. The sugar in about three weeks grows tolerably dry and fair; it is then said to be cured, and the process is finished.

Sugar thus obtained, is called muscovado, and is the raw material from whence the British sugar-bakers chiefly make their loaf or refined lump. There is another sort, which was formerly much approved in Great-Britain for domestic purposes, and was generally known by the name of Lisbon sugar: it is fair, but of a soft texture, and in the West-Indies is called clayed sugar. The process is conducted as follows:

A quantity of sugar from the cooler is put into conical pots or pans, called by the French, formes, with the points downwards, having a hole about half an inch in diameter at the bottom, for the molasses to drain through, but which at first is closed with a plug. When the sugar in these pots is cool, and become a fixed body, which is discoverable by the middle of the top falling in (generally about twelve hours from the first potting of the hot sugar), the plug is taken out and the pot placed over a large jar intended to receive the syrup or molasses that drains from it. In this state it is left as long as the molasses continues to drop, which it will do from twelve to twenty-four hours, when a stratum of clay is spread on the sugar, and moistened with water, which, oozing imperceptibly through the pores of the clay, unites intimately with, and dilutes the molasses, consequently more of it comes away than from sugar cured in the hogshead, and the sugar of course becomes so much the whiter and purer. The process, according to Sloane, was first discovered in Brazil by accident. A hen, says he, having her feet dirty, going over a pot of sugar, it was found under her tread to be whiter than elsewhere. The reason assigned why this process is not universally adopted in the British sugar-islands is this, that the water which dilutes and carries away the molasses, dissolves and carries with it so much of the sugar, that the difference in quality does not pay for the difference in quantity. The French planters probably thought otherwise, upwards of four hundred of the plantations of St. Domingo having the necessary apparatus for claying, and actually carrying on the system. †

A sugar

* It may be proper in this place to observe, that, in order to obtain a large-grained sugar, it must be suffered to cool slowly and gradually. If the coolers are too shallow, the grain is injured in a surprising manner. Any person may be convinced of this by pouring some of the hot syrup, when fit for striking, into a pewter plate: he will immediately find it will have a very small grain.

† The loss in weight by claying is about one-third; thus a pot of 60 lbs. is reduced to 40 lbs., but if the molasses which is drawn off in this practice be reboiled, it will give near forty per cent. of sugar; so that the real loss is little more than one-sixth; but the distillery in that case will suffer for want of the molasses, and, on the whole, I believe that the usage of the English planters in shipping muscovado sugar, and distilling the molasses, is more generally profitable than the system of claying.

A sugar plantation consists of three great parts; the lands, the buildings, and the stock: but before I proceed to discriminate their relative proportions and value, it may be proper to observe, that the business of sugar planting is a sort of adventure in which the man that engages must engage deeply. There is *no medium*, and very seldom the possibility of retreat. A British country gentleman who is content to jog on without risk, on the moderate profits of his own moderate farm, will startle to hear that it requires a capital of no less than thirty thousand pounds sterling to embark in this employment with a fair prospect of advantage. To elucidate this position, it must be understood that the annual contingencies of a small or moderate plantation are very nearly equal to those of an estate of three times the magnitude. A property, for instance, producing annually one hundred hogsheads of sugar of sixteen cwt, has occasion for similar white servants, and for buildings and uteusils of nearly the same extent and number, as a plantation yielding from two to three hundred such hogsheads, with rum in proportion. In speaking of capital, I mean either money, or a solid, well-established credit; for there is this essential difference attending loans obtained on landed estates in Great Britain, and those which are advanced on the credit of West-Indian plantations, that an English mortgage is a marketable security, which a West-Indian mortgage is not. In England, if a mortgagee calls for his money, other persons are ready to advance it; now this seldom happens in regard to property in the West-Indies. The credit obtained by the sugar-planter is commonly given by men in trade, on the prospect of speedy returns and considerable advantage; but as men in trade seldom find it convenient to place their money out of their reach for any length of time, the credit which they give is oftentimes suddenly withdrawn, and the ill-fated planter compelled, on this account, to sell his property at much less than half its first cost. The credit therefore of which I speak, considered as a capital, must not only be extensive, but permanent.

Edwards' History of the British West Indies.

Having premised thus much, the application of which will hereafter be seen, I shall employ my present enquiries in ascertaining the fair and well-established prices at which a sugar estate may at this time be purchased or created, and the profits which may honestly and reasonably be expected from a given capital so employed, founding my estimate on a plantation producing one year with another, two hundred hogsheads of sugar, of sixteen hundred-weight, and one hundred and thirty puncheons of rum, of one hundred and ten gallons each: an estate of less magnitude, I conceive, for the reasons before given, to be comparatively a losing concern. Afterwards, I shall endeavour to account for the eagerness which has been shewn by many persons to adventure in this line of cultivation. I begin then with the lands. On a survey of the general run of the sugar estates in Jamaica, it is found that the land, in canes, commonly constitutes one-third of the plantation; another third is appropriated to pasturage and the cultivation of provisions, such as plantains, (a hearty and wholesome food) eddoes, yams, potatoes, cassado, corn, and other vegetable esculents, peculiar to the country and climate; and which, with salted fish supplied the negroes weekly, and small stock, as pigs and poultry of their own raising, make their chief support, and in general it is ample: the remaining third is reserved in native woods, for the purpose of furnishing timbers for repairing the various buildings and supplying firewood for the boiling and distilling-houses, in addition to the cane-trash, and for burning lime and bricks. As therefore a plantation yielding on an average two hundred hogsheads of sugar annually, requires, as I conceive, not less than three hundred acres to be planted in canes, the whole extent of such a property must be reckoned at nine hundred acres. I am persuaded that the sugar plantations in Jamaica, making those returns, commonly exceed, rather than fall short of this estimate; not, as hath been ignorantly asserted, from a fond and avaricious propensity in the proprietors to engross more land than is necessary; but because, from the nature of the soil and rugged surface of the country, the lands vary greatly in quality, and it is seldom that even three hundred acres of soil in contiguity, fit for the production of sugar, can be procured. A purchaser therefore must take the bad with the good. Nevertheless, as it is my intention to give as precise an idea as I can of the profits to be made in the sugar-planting business, under the most favourable circumstances. I will allow nothing for a dead capital vested in unproductive wood-land, but fix on six hundred acres as sufficient for all the purposes that have been mentioned, appropriating one-half of the whole, instead of one-third, to the culture of the cane.

The price of woodland in Jamaica depends chiefly on its situation. In seasonable parts of the country, and in the vicinity of the sea, I conceive it would be difficult to purchase a quantity of sugar-land sufficient for a good estate, unless at a very high price. On the north side, in a fertile and seasonable parish, I have lately known a tract of eight hundred acres, with a fine river running through it, sell for ten pounds currency per acre; but it was at the distance of ten miles from the sea, and the purchaser had a new and difficult road to make for three miles of the way. Such another territory, without the inconveniences to which this was subject, would, as land sells in Jamaica, be well worth, and easily obtain, fourteen pounds currency, or ten pounds sterling per acre. Six hundred acres at this price is £8,400 currency. The cost of clearing one half, and planting it in canes, including four cleanings, would be £12 currency per acre, or £3,600. Clearing and planting 100 acres in provisions would be £7 an acre, or £700; the same for clearing and planting 100 acres in Guinea grass. Inclosing and fencing the whole would cost, on a moderate estimate, £700 more. Total £14,100 currency; being equal to £10,071 sterling.

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BUILDINGS.—The buildings which will be found necessary on a plantation of the magnitude described are, 1st. A water-mill (if water can be obtained), the cost of which, considering that a great extent of stone guttering is commonly requisite, may be stated, on a very low estimate, at £1,000 sterling. In case no water-mill can be erected, I do not conceive that a single mill, whether worked by cattle, mules, or wind, is sufficent to take off the crop in due time; a most important object, on which the future success of the plantation depends. I allow therefore for a windmill and one cattle-mill, or for two cattle-mills without a windmill, a sum equal to the cost of a water-mill, or .....Jamaica currency £1,400

2d. A boiling-house, 45 by 22 feet, to contain three copper clarifiers, of 350 gallons each, and four other pans or boilers; including the cost of the same, and other utensils..... 1,000

3d. A curing house, adjoining to the boiling-house, calculated to hold one-half of the crop, with strong joists of solid timbers instead of a floor, having a terraced or boarded platform underneath, leading to a melasses cistern, lined with terrace, sufficient to contain 6,000 gallons..... 800

4th. A distilling-house, 70 feet by 30; the distillery part to contain two stills of 1,200 and 600 gallons, with worms proportionate; also a stone tank or cistern, to hold 30,000 gallons of water; the fermenting part to contain two or more vats, or cisterns, for the dunder and skimmings; also twelve cisterns of solid plank fixed in the earth, of 1,200 gallons each, with copper pumps, and other necessary apparatus; together also with a rum store under the same roof 1,600

5th. A dwelling house for the overseer 600

6th. Two trash-houses, each 120 by 30; the foundation of stone, the sides open, the roof supported by stone pillars and covered by shingles, £300 each 600

7th. A hospital for the sick negroes, containing also a room for lying-in women, a room for confining disorderly negroes, a shop for the doctor, and one or more store-rooms for securing the plantation utensils and provisions 300

8th. A mule stable for 60 mules, with a corn-loft above 150

9th. Shops for the different tradesmen, *viz.* carpenters, coopers, wheelwrights, and smiths 150

10th. Sheds for the waggons, wains, carts, &c. 50

Add extra expenses; such as the cost of the wains, utensils for the smith's shop, household furniture, &c. &c..... 350

The total is £5,000 sterling, being equal to currency.....£7,000

STOCK.—The stock on a plantation of the magnitude described cannot prudently consist of less than two hundred and fifty negroes, eighty steers, and sixty mules. It is not sufficient to object, that two hundred hogsheads of sugar have been produced by the labour of a less number of negroes than is here allowed. I am treating of an estate which produces that quantity on a medium; consequently, as from droughts and unfavourable seasons the crops will sometimes fall short of, at other times they must greatly exceed the numbers prescribed; and, under these circumstances, I do not believe a plantation will easily be named that possesses (or employs in job-work and otherwise) a less number of negroes annually. If such an estate there is, I hesitate not to pronounce that it is in improvident hands: for what management can be worse than that which, by overworking the negroes, sacrifices the capital for the sake of a temporary augmented income? The cost of the stock therefore may be stated as follows:

250 Negroes, at £70 each.....Jamaica currency	£17,500
80 Steers, at £15	1,200
60 Mules, at £28	1,680
Total in currency (equal to £14,557 sterling).....	£20,380

Let us now bring the whole into one point of view.

Lands.....Jamaica currency	£14,100
Buildings	7,000
Stock.....	20,380
Total in currency.....	£41,480

Which is only £520 short of £42,000 Jamaica currency, or £30,000 sterling, the sum first mentioned; and I am further of opinion, that if the owner of such a property were to sell it by appraisement, the valuation would amount to nearly the sum expended. It would therefore be more advisable, undoubtedly, to purchase a plantation ready settled, rather than attempt to create a new one from uncleared lands; inasmuch as the labour and risk of the undertaking would be thereby avoided. But however this may

may be, it must be considered as a fixed and well established fact, that a sugar plantation of the extent and returns which have been supposed, whether acquired by purchase, or by the risk and labour of clearing the lands, will unavoidably cost (the necessary buildings and stock included) £30,000 sterling, before any adequate interest can be received from the capital. Edwards' History of the British West-Indies.

The produce of such a plantation has been stated at 200 hogsheads of sugar, of 16 cwt., and 130 puncheons of rum, of 110 gallons, communibus annis; the value of which, according to the average prices at the London Market, for ten years previous to 1791, may be reckoned as follows:

200 hogsheads of sugar, at £15 sterling per hogshead .....sterling	£3,000
130 puncheons of rum at £10 sterling per puncheon	1,300
Gross returns.....sterling	£4,300

But the reader is not to imagiue that all this, or even the sugar alone, is so much clear profit. The annual disbursements are first to be deducted, and very heavy they are; nor is any opinion more erroneous than that which supposes they are provided for by the rum. If such indeed were the fact, the capital would yield precisely an annual interest of ten per cent.: but a reference to the several items which I have particularized in a note,* will demonstrate the fallacy of this too common mode of calculation. They amount at a very moderate estimate (including freight, charges, and merchants' commissions, and adding a proportional part of the cost of many expensive articles, such as copper stills, wain tyre, grating bars, &c. which would, perhaps, be wanted once in five years) to the sum of £850 sterling. To this sum are to be added the following very heavy charges within the island: *viz.*

Overseer's or manager's salary ..... Currency	£200
Distillers ditto	70
Two other white servants £60 each	120
A white carpenter's wages	100
Maintenance of five white servants, exclusive of their allowance of salted provisions £40 each.....	200
Medical care of the negroes (at 6s. per annum for each negro) and *extra* cases, which are paid for separately	100
Millwright's, coppersmith's, plumber's, and smith's bills, annually.....	250
Colonial taxes, public and parochial.....	200
Annual supply of mules and steers.....	300
Wharfage and storeage of goods landed and shipped	100
American staves and heading for hogsheads and puncheons.....	150
A variety of small occasioual supplies of different kinds supposed.....	50
Equal to £1,300 sterling; being in currency	£1,840

The total amount, therefore, of the annual contingent charges of all kinds is £2,150 sterling. which is precisely one half the gross returns, leaving the other moiety, or £2,150 sterling, and no more, clear profit to the planter; being seven per cent on his capital and £50 over, without charging, however, a shilling for making good the decrease of the negroes, or for the wear and tear of the buildings, or making any allowance for dead capital, and supposing too, that the proprietor resides on the spot; for if he is absent, he is subject in Jamaica to an annual tax of £6 per cent on the gross value of his sugar and rum for legal commissions to his agent. With these and other drawbacks (to say nothing of the devastations which are sometimes occasioned by fires and hurricanes, destroying in a few hours the labours of years) it is not wonderful that

* Annual supplies from Great Britain and Ireland:

1st. Negro Clothing, *viz.*

1,500 yards of Osnaburgh cloth or German linen.
650 yards of blue bays, or pennistones, for a warm frock for each negro.
350 yards of striped linseys for the women.
250 yards of coarse check for shirts for the boilers, tradesmen, domestics, and children.
3 dozen of coarse blankets for lying-in women and sick negroes.
18 dozen of coarse hats.

2d. Tools.

For the carpenters and coopers, to the amount of £25 sterling, including two or three dozen of felling axes.

3d. Miscellaneous Articles.

160,000 nails of different sizes.
2,500 puncheon rivets.
6 cattle chains.
6 dozen of hoes.
6 dozen of bills.
20 dozen of shall clasp knives for the negroes.
4 dozen of ox-bows.
50 bundles of iron hoops.
2 sets of puncheon truss hoops.
2 sets of hogshead do.
80 gallons of train oil for lamps.
2 barrels of tar.
2 boxes of short tobacco pipes for the negroes.
180 bundles of wood hoops.
2 sheets of lead
6 large copper ladles } for the boilers.
6 do. skimmers }
8 dozen of small iron pots for the negroes.
2 puncheons of Bristol lime for temper.
4 grindstone s

Provisions, &c. *chiefly from Ireland.*

80 barrels of herrings, or salted cod equal thereto.
6 barrels of salted beef.
2 barrels of salted pork
4 firkens of salted butter.
2 boxes of soap.
2 boxes of candles.
2 hogsheads of salt.
6 barrels of flour.
6 kegs of pease.
3 jugs of groats.

Edwards' History of the British West-India.

the profit should frequently dwindle to nothing; or rather that a sugar estate, with all its boasted advantages, should sometimes prove a millstone about the neck of its unfortunate proprietor, which is dragging him to destruction!*

Admitting even that his prudence or good fortune may be such as to exempt him from most of the losses and calamities that have been enumerated, it must nevertheless be remembered that the sugar-planter is at once both landlord and tenant on his property. In contrasting the profits of a West Indian plantation with those of a landed estate in Great Britain this circumstance is commonly overlooked; yet nothing is more certain than that an English proprietor, in stating the income which he receives from his capital, includes not in his estimate the profits made by his tenants; these constitute a distinct object, and are usually reckoned equal to the clear annual rent which is paid to the proprietor. Thus a farm in England, producing an income of 3½ per cent to the owner, is in fact proportionably equal to a sugar plantation yielding double that profit to the planter; and possesses besides all that stability, certainty, and security, the want of which is the great drawback on the latter. An English gentleman, when either extreme of dry or wet weather injures the crop on his lands, has no other concern in the calamity than such as the mere feelings of humanity may dictate. Nor is he under the disagreeable necessity in time of war, of paying large premiums for insuring his estate from capture by a foreign enemy. This is another tax, which the unfortunate West Indian resident in Great Britain must add to his expenses; or submit to the disagreeable alternative of passing many au uneasy day and sleepless night in dreadful anxiety for the fate of his possessions, and the future subsistence of his family; harassed perhaps at the same time by creditors, whose importunity increases as their security becomes endangered.

But there is a question, naturally arising from the premises, to which it is proper that I should in this place give an answer, and it is this; seeing that a capital is wanted which few men can command, and considering withal, that the returns are in general but small and at best uncertain, how has it happened that the sugar islands have been rapidly settled, and many a great estate purchased in the mother-country, from the profits that have accrued from their cultivation? It were to be wished that those who make such inquiries would inquire on the other hand, how many unhappy persons have been totally and irretrievably ruined, by adventuring in the cultivating of these islands, without possessing any adequate means to support them in such great undertakings? On the failure of some of these unfortunate men, vast estates have indeed been raised by persons who have had money at command.

The following is a comparative view of the two greatest branches of the British commerce, the East and West-Indian trades.

East-Indian Trade.	*West-Indian Trade.*
East-Indian trade capital employed, eighteen millions.	West-Indian trade capital employed, seventy millions.
Value of goods exported annually to India and China, both by the Company and their officers, one million and a half.	Value of goods exported from Great Britain and her dependencies, including the profit of freight on the several branches of supply, insurance, &c., three millions eight hundred thousand pounds.
Import sales by the Company, and sales under license, five millions.	Imports into Great Britain and Ireland, and shipped to other parts, the profits of which centre in Great Britain, seven millions two hundred thousands pounds.
Duties paid to government, customs, &c., seven hundred and ninety thousand pounds.	Duties paid to government, one million eight hundred thousand pounds.
Chartered shipping of the Company, eighty thousand tons.	Shipping employed direct, one hundred and fifty thousand tons.

But the great difference arises from the circumstance that the trade to the West-Indies is carried on with our own colonial possessions, which the settlements in the East never were, nor ever can be considered.

Remarks on the East-India and other Canes imported into the French Charaibean Islands, and lately introduced into the Island of Antigua by Sir John Laforey, Bart. London, 1794.

One sort was brought from the island of Bourbon, reported by the French to be the growth of the coast of Malabar.

Another

* In Jamaica, the usual mode of calculating, in a general way, the average profit of a sugar estate, is to allow £10 sterling per annum for every negro, young and old, employed in this line of cultivation.

Another sort from the Island of Otaheite.

Another sort from Batavia.

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The two former are much alike, both in their appearance and growth; but that of Otaheite is said to make the finest sugar. They are much larger than those of our islands, the joints of some measuring eight or nine inches long and six in circumference.

Their colour, and that of their leaves, also differs from ours, being of a pale green; their leaves broader, their points falling towards the ground as they grow out, instead of being erect like those of our islands. Their juice also, when expressed, differs from that of our canes, being of a very pale, instead of a deep green colour. I caused one of the largest of these canes to be cut at what I deemed its full growth, and likewise one of the largest of the island canes that could be found on each of three other plantations. When they were properly trimmed for grinding, I had them weighed; the Malabar canes weighed upwards of seven pounds, and neither of the other three exceeded four pounds and a quarter.

They are ripe enough to grind at the age of ten months; a few cut for trial by my manager, above twelve months old, were judged to have lost part of their juices by standing too long.

They appear to stand the dry weather better than ours. I observed that after a drought of a long continuance, when the leaves of our own canes began to turn brown at their points, these continued their colour throughout.

A gentleman of Montserrat had some plants given him by Monsieur Pinnel, one of the most considerable planters of Gaudaloape, who told him he had in the preceding year, 1792, in which an exceeding great drought had prevailed, planted amongst a large field of the island canes half an acre of these; that the want of rain, and the borer, had damaged the former so much, that he could not make sugar from them, but the latter had produced him three hogsheads.

In the spring of this year, 1794, a trial was made of the Malabar canes on one of my plantations; 160 bunches from holes of five feet square were cut, they produced upwards of 350 lbs. of very good sugar, the juice came into sugar in the teache, in much less time than is usually required for that of the other canes, and threw up very little scum. The produce was in the proportion of 3,500 lbs. to an acre; the weather had then been so very dry, and the borer so destructive, that I am sure no one part of that plantation would have yielded above half that quantity from the other canes, in the same space of ground. We had not then the benefit of the new invented clarifiers, which though imported, had not been fixed up for want of time.

The French complain that these canes do not yield a sufficient quantity of field trash to boil the juice into sugar; to this, and their never throwing up an arrow, I think their superior size may in good measure be attributed. This inconvenience may be obviated, by the substitution of coals; and the increased quantity of the cane trash, which their magnitude will furnish (and which we reckon the richest manure we have, when properly prepared), will well indemnify the expense of firing.

The Batavia canes are a deep purple on the outside; they grow short-jointed and small in circumference, but bunch exceedingly, and vegetate so quick that they spring up from the plant in one third the time those of our islands do; the joints, soon after they form, all burst longitudinally. They have the appearance of being very hardy, and bear dry weather well. A few bunches were cut and made into sugar at the same time the experiment was made with white canes. The report made to me of them was that they yielded a great deal of juice, which seemed richer than that of the others, but the sugar was strongly tinged with the colour of the rind; and it was observed that upon the expression of them at the mill, the juice was of a bright purple, but by the time it had reached through the spout to the clarifier, a very short distance, it became of a dingy iron-colour. I am told the Batavia sugar imported into Amsterdam is very fair, so that if those canes should otherwise answer well, means may doubtless be obtained to discharge the purple tinge from their juice.

A general state of Agriculture, and Negro population in the Island of Jamaica, at the close of 1791, from the report of a Committee of the House of Assembly.

	Number.	Negroes employed thereon.
Sugar plantations	767	140,000
Coffee plantations	607	21,000
Grazing and breeding farms, called penns	1,047	31.000
Of small settlements, for the growth of cotton, ginger, pimento, corn, and other provisions, the number is not ascertained; they are supposed, including the negroes in the several towns, to give employment to		58,000
Total number of enslaved negroes in Jamaica in 1791		250,000

PRODUCE

Colonial Journal, 1816.

PRODUCE OF SUGAR IN GEORGIA.

I. GEORGIA PRODUCT AND EXPENSES.

Extract of a Letter from a Gentleman in Georgia, in the United States of America, to a Member of Congress.

The cultivation of the cane is rapidly extending with us; I have received some information on this interesting subject, which I suppose may be gratifying to you.

Major Butler, on 85 acres, cultivated by 17 hands, produced 140,000 lbs. sugar, and 74 hogsheads of molasses.

John McQueen, Esq. planted 48 acres in cane—average product 20,000 canes per acre; 5,000 canes, the product of a quarter of an acre, yielded 600 gallons of juice, which, boiled down, made 672 lbs. sugar, and may lose 50 lbs. in draining, leaving 662 lbs., or 2,488 lbs. of sugar per acre.

Let us look at these products, and see what they amount to at the present prices for sugar and molasses.

140,000 lbs. Sugar (worth, on the spot) 17 cents.....Dollars	23,800
75 hhds. Molasses, at 80 dlrs.	6,000
Produce of 85 acres and 17 hands.....Dollars	29,800
18 Acres, at 2,488 lbs. per acre; 44,784 lbs. at 17 cents ...Dollars	7,613
Say 23 hhds. molasses, at 80 dlrs.	1,840
Produce of 18 acres, and five or six hands...Dollars	39,253

39,253 Dollars, the product of 23 hands, are for each hand 1,706 dollars. There is no gold mine equal to this.

But sugar and molasses may not hold their present prices; the duties will be reduced, and the cost of freight and charges lessened, by the continuance of peace. Good sugar, however, cannot easily be lower in the United States than 10 cents, the (old) duty included; and it is believed the West-India planter cannot profitably furnish it here at so low rate. And the product of these crops, raised on 103 acres by 23 hands (allowing the sugar at 10 cents per pound, and the molasses at 40 dollars per hogshead) would be 21,978 dollars, or 212 dollars per acre, and 961 per hand.

When we get to exporting sugar, when it becomes a staple article of our commerce, like cotton, its value may depreciate equal to the duty that will probably be continued (upon it, 2½ cents per pound), but still it will be a most profitable crop.

II. WEST-INDIA PRODUCT AND EXPENSES.

Letter to the Editor of the St. Christopher's Advertiser.

SIR:—Upon reading in an American paper the above statement of facts, and the reflections upon them, I have been led to consider how they may affect us, and what measures we ought, in duty to ourselves, to adopt, to counteract the effect the raising of sugar in the United States and elsewhere may have upon us. First, as to the quantity raised per acre, I find the Georgia accounts stand considerably higher than an average of our crops. I have not, perhaps, the most accurate data to direct me as regards ourselves, but such as it is, and taking the Georgia statement to be correct, the comparison will run thus:

	A.	R.	P.
This island by the Almanack is said to contain	48,727	0	3
As this I presume the total surface, let us deduct two-fourths for non-arable, and one-fourth for arable not in crop	32,795	1	2
And there will remain in canes for one crop.....	10,231	3	1

The average product of the last five years appears, from the same source, to be (taking two trs. or eight blls. to a hhd.).....hhds.	7,719
Adding to this, for the consumption in the island	200
It would be .....hhds.	8,019

or say 1,800 lbs. each, or 14,434,200 lbs., or 1,320½ lbs. per acre. By the Georgia account, in the first case we have 1,647 lbs. per acre, and in the other 2,488, or an average of 2,065 lbs. per acre.

Next, as to the number of hands. In the Georgia statement we have 103 acres cultivated by 23 hands, and they raise 9,247 lbs. each. Here an estate which should plant 103 acres of canes, would, I presume, to be well handed, have 250 negroes, young and old, which may all, except infants and the very aged, be said to contribute, less or more

more, to the cultivation of the cane; but deducting 100 for infants, nurses, and other ineffective hands, we have 906 lbs. each for the remaining 150.

Culture of Sugar in Georgia.

A vast disproportion this, both in the product and number of hands, and it cannot fail to affect the West-India planter considerably: for admitting that the Georgians are only able to supply the United States, it will most materially influence the price of our sugar; and as they look forward to it, if they export, they can bring their's into market considerably lower than we can bring our's; for besides the greater produce per acre (which it may be said will fall off, though I do not think it will, or at least so much as our crops have), their's cannot cost them near so much in cultivation, as they raise all the food, and I believe most of the clothing necessary, and they do not require near so many hands.

Sugar is also raised to a considerable extent in the East-Indies, and possibly will soon be in Africa.

From all these considerations, therefore, I think it becomes our duty, as it evidently will be our interest, to consider and adopt those measures by which we may increase the produce of our lands, and cultivate them with less expense, and less manual labour; all which appear to me to be practicable, in some degree, though local circumstances may prevent our attaining them in an equal proportion with the Georgians.

A society formed for that purpose throughout the islands, upon one general plan, having branches in each island, communicating regularly with each other, which would encourage rational experiments and improvements, similar to the Society for the Improvement of Agriculture in the mother country, would, perhaps, be the most effectual way to accomplish the first of these great and important objects; and to contribute to the second, I presume Indian corn, sufficient to feed the negroes, may, if judiciously managed, be raised on each estate, without reducing the sugar-crop, but rather the contrary, by which means they may always have a fresh meal. The improvement of the machines and instruments now in use, and the adoption of such others as are applicable, would contribute to the last: for I believe it will not be contended that we are arrived at perfection in either. Surely 103 acres could not be cultivated by 23 hands with the hoe.

The principle objection to such a society would be the non-residence of proprietors in the country; but to this I would say, few as there are, they might do a great deal, if they would jointly consider the matter seriously, and set about it heartily; for surely something seems to be wanting to meet present circumstances and appearances.

I am, Sir,

A well wisher to the Public.

BRITISH SUGAR-TRADE.

To the Editor of the Colonial Journal.

Sir:—Reviewing, in the way of business, the market for West-India produce, I have been led to make observations that may be worth the consideration of some of your readers.

British Sugar Trade, 1817.

The importation of sugar last year may be considered as a pretty correct criterion of future supply. Jamaica, although supposed to be under an average crop, sent seventy-five thousand seven hundred and seventy-five casks to this market, a quantity nearly equal to what we have usually received; any addition, however, from Jamaica will be balanced by the restored colony of Surinam, and the liberty of intercourse between Holland and the ceded Dutch colonies.

The supply of sugar from the East-Indies last year, exclusive of Batavia and the Isle of France, was not more than equal to five thousand nine hundred and four hogsheads West-India, and it appears that the average annual import from 1801 to 1805 was equal to five thousand hogsheads; so that no extraordinary supply from that quarter has yet taken place. The West-India planter, however, must look with cautious apprehension to a more extended competition from the East-Indies, as well as to the encouragement afforded for an increasing cultivation at Cuba and the Brazils, by the exclusive power they retain of procuring a cheap supply of slaves, now they are freed from the competition of other countries in the slave trade.

The quantity of sugar delivered from the West-India Dock warehouses, from the 1st April 1816 to the 1st April 1817, exceeds the import five thousand eight hundred and seventy-seven casks. The stock in the hands of the trade is light. In the West-India Dock warehouses no more than twenty thousand five hundred and sixty-six casks remain; and the average weekly delivery for the last month is three thousand four hundred and sixty-seven casks. There has been great uniformity in the market throughout the year, and little or no inducement to make purchases beyond the immediate demand, excepting the temporary impulse given in October, from an expectation of the distillation from grain being stopped.

The ample demand and steadiness in the raw sugar market I attribute to the export of sugar in a refined state, in spite of the advance in the foreign exchanges, and the competition of the foreign refiners.

British Sugar Trade, 1817.

It must, I think, ever continue to be the policy of our Government to encourage the export of the manufactured article in preference to the raw commodity, by continuing liberal bounties; and I have no doubt, under such protection, the superior capital and more enlarged experience of the British sugar-refiner will enable us to dispose of the surplus quantity of raw sugar at such prices as will afford a fair return to himself and to the West-India planter, for the skill, industry, and capital employed. Should this means of disposing of the surplus, from any mistaken policy, fail, a recurrence to the disastrous times of 1806 will, I apprehend, be inevitable. A large surplus quantity, beyond our own wants, must find a market elsewhere; and in time of peace, when, from an unrestrained competition, the nicest attention to economical management is indispensable, the expenses on such a bulky commodity as raw sugar, sent circuitously through this country for consumption to the continent, are too heavy to come in competition with direct supplies, without certain loss to the British planter; it being a general and undoubted position, that the price at which the surplus can be disposed of, will regulate the price of the whole.

From this view of the sugar trade, I strongly recommend an attention to the improvement of the quality, rather than an increase of the quantity, as a large export of refined sugar must require a corresponding supply of good strong raw sugar, fit for the purpose of the refiner, and in the process of refining a large quantity of bastard sugar and molasses are produced, which remain for home consumption, and for cheapness supersede in a great measure the use of the inferior qualities of raw sugar.

These observations apply generally, as the export trade centres in London; and the price of sugar at the out-ports, must in a great degree, be governed by the London prices.

C. C.

London, April 2d, 1817.

SUGAR-TRADE *of the* UNITED STATES *of* AMERICA.

Sugar Trade of the United States of America.

A statistical writer in the United States gives the following account of the present culture of the sugar-cane, and manufacture of sugar in that country:

After the acquisition of a cane district by the purchase of Louisiana, it was apprehended that the constitutional impediments to the importation of slaves would at once deprive us of much cane-sugar, which our newly acquired country could produce, and in some degree effect the prosperity of the delta of the Mississippi. But the reported production of nine millions six hundred and seventy-one thousand five hundred pounds of the sugar of the cane in Lower Louisiana, in the year 1810,* with one hundred and seventy-nine thousand gallons of molasses,† is considered as far short of what that country will be quickly made to produce, by the general adoption of the new and various operations in the culture of the cane, and manufacture of sugar, which are found to be practicable. This new mode of managing sugar-lands appears to be worthy of particular attention and statement.

Instead of the employment of slaves, requiring a handsome advance of capital, and an expensive subsistence, the occasional labour of neighbouring transient hired white persons is often used, to prepare the grounds with the plough and harrow, and to plant the new canes, to dress the old ones, and to clear the growing plants from weeds. The same or other white labourers are afterwards employed by the planters to cut, and stack under cover, the ripened canes, so as to prepare them for the grinding-mill and boiler. The operation of planting occurs after the sickly autumnal season, and before the vernal; and the operation of cutting also occurs in the healthy season at the end of the following autumn. The service is therefore not unhealthy.

It is considered to be expedient, that the planters who own, and they also that cultivate the soil, should not expend great sums in the establishment of mills and sets of works on all the sugar estates, after the manner of the West-Indian colonies of the European states. But it is found much more convenient and profitable to leave the business of grinding and boiling to one manufacturer of muscovado sugar, for a number of planters. These persons, like the owners of grain-mills and sawing-mills, can be employed for a toll in kind, or part of the produce, or for a compensation in money. By this method a tract of three miles square, or three hundred and twenty perches square, which would contain twenty-five plantations, of above one hundred and two acres each, may be accommodated by one central manufactory of muscovado sugar from the cane-stalks; for none of these plantations will be more distant than a single mile; a mere city porterage or carterage. Refineries for making white sugar, and distilleries, may be added, and the economy and accommodation to the planters will be more complete.

This

* It is found, since 1810, that sugar is produced on the whole coast of Georgia.

† There were made also two hundred and thirty-nine thousand one hundred and thirty gallons of distilled spirits out of two hundred and thirty-nine thousand one hundred and thirty gallons of molasses, in Lower Louisiana, in 1810.

Sugar Trade of the United States of America.

The effect of this division of labour and ownership will be, rapidly to bring into the most complete and productive cultivation all the cane-lands in the United States, and to advance the various manufactures of this valuable and wholesome agricultural production. The easy and cheap maintenance of cattle, the abundant supplies of provisions and building materials, for man and beast, and the abundance of fuel and cask lumber, with the benefits to our planters from being more frequently and comfortably their own stewards and overseers, will greatly redound to their convenience and profit. Their exemption from duty on their muscovado sugar, their refined white sugar, and their molasses, is a very great advantage to the manufacturers of it from the brown sugar and molasses of the United States. *

Mr. Pitkin, in his Statistical View, gives the following summary: "The whole quantity," says this writer, "of sugar consumed in the United States for some years past must have been about seventy millions of pounds. In 1810, about ten millions were made in the territory of Orleans, now state of Louisiana; and in the same year, according to the returns of the marshals, more than nine millions and a half of sugar were made from the maple-tree in the United States.

Sugar plantations have been and still are increasing in Louisiana; and it is stated, by those well acquainted with the subject, that in 1814 not less than fifteen millions were made in that state, though but a small proportion of the lands there suitable for sugar, have yet been planted with cane.

The culture of the sugar-cane has lately been introduced into the state of Georgia, and the experiments already made have been attended with the most flattering success. In 1805, Thomas Spalding, Esq., a gentleman of wealth and enterprize in that state, procured one hundred cane-plants from the West-Indies, for the purpose of trying them on his plantation, on an island near the sea-coast of Georgia. After repeated trials, in which he was guided principally by his own judgment and experience, he completely succeeded. About three years since, he made a small quantity of sugar of a good quality; and in 1814 he had one hundred acres in cane, which produced seventy-five thousand weight of prime sugar, and four thousand gallons of molasses; and but for the want of boilers, which on account of the war could not be brought to his plantation, would have produced one hundred thousand weight. The culture of the cane is found not to be more laborious than cotton, and is not liable to so many accidents. One thousand pounds per acre is not considered a great crop. This at ten cents (5½*d.*) would be one hundred dollars. Almost every planter along the sea-coast of Georgia is now turning his attention, more or less, to the culture of the sugar-cane; and from experiments already made, the cane is found to grow luxuriantly as far north as the city of Charleston, in South Carolina. There can, perhaps, be little doubt, that at a period not very far distant, a sufficient quantity of sugar may be made, within the limits of the United States, for the consumption of the inhabitants."

The subjoined table shows the quantity of sugar imported into the United States, and again exported, and consequently the quantity of cane-sugar ‡ of foreign growth consumed within the country from 1801 to 1812, both years inclusive.

Years.	Imported. lbs.	Exported. lbs.	Consumed. lbs.
1801	143,611,596	97,734,209	45,877,387
1802	78,476,165	61,180,208	17,295,957
1803	85,740,537	23,323,482	62,417,055
1804	129,969,997	75,096,401	54,873,596
1805	205,792,755	122,808,993	82,983,762
1806	200,737,940	145,630,841	55,107,099
1807	215,836,202	143,119,605	72,716,597
1808	86,694,229	28,962,527	57,731,702
1809	64,081,840	45,297,338	18,784,502
1810	68,368,792	47,024,002	21,344,790
1811	73,976,609	18,268,347	55,708,262
1812	72,437,561	13,927,277	58,510,284
Average consumption			50,279,249

* A Statement of the Arts and Manufactures of the United States of America for 1810, digested and prepared by Tench Coxe, Esq. of Philadelphia.—Philadelphia, 4to. 1810.

‡ The domestic consumption, to a certain amount, is supplied by the sugar of the maple.

EXTRACT

Young's West-India Common-place Book.

EXTRACT Sir William Young's WEST-INDIA COMMON-PLACE BOOK, 4to. 1807.

Exports from Jamaica: Report House of Commons May 5th, 1806.

	Rep. House of Com. 1775.		Bryan Edwards.		H. C. 1806.	
	1773.		1787.		1805.	
	To Great Britain.	America.	To Grrat Britain.	America.	To Great Britain.	
Sugar, hogsh. 13 cwt. of 112 lbs.	93,400	2,400	64,000	700	130,000	America no Return.
Rum,* ... punch. of 110 gallons	17,280	8,700	18,145	3,000	18,000	
Melasses, ... gallons	4,140	5,700	2,316	4,100	.....	

Produce of Jamaica, comparative with the total Produce of the British West-Indies.

Return to House of Commons, May 6, 1806, of Imports to Great Britain of Sugar.

	SUGAR. Hogshead, 13 cwt. of 112 lbs.		
	Jamaica.	Other Islands.	Total Sugar.
1793.....	80,300	83,200	163,500
1794.....	89,800	73,500	163,300
1795.....	83,200	45,100	128,300
1796.....	83,400	47,800	131,200
1797.....	80,030	41,044	121,074
1798.....	83,350	67,350	150,700
1799.....	95,000	98,000	193,000
1800.....	110,300	67,530	177,830
1801.....	143,200	79,950	223,150
1802... ..	144,100	117,350	261,450
1803.....	125,000	87,300	212,300
1804.....	120,000	109,000	239,000
1805.....	132,000	92,700	224,700

From the above table appear the following results:

That Jamaica alone returns above one-half of the sugar produced by the whole of the British colonies.

For six years to 1798, Jamaica returned a steady average of about 84,000 hogsheads of sugar.

The very high prices of sugar in the European market for four years preceding, and the highest in 1798, excited speculations of extending the sugar plantations in Jamaica and other islands; and this, aided with the new and more productive Bourbon cane, accounts for the increase of sugar from Jamaica, progressive, to 1803; whilst, with the exception of St. Vincent's and Grenada, and above all, Tobago, (if British), the Windward Islands having no extra, spare, and fertile lands, to do the same, yet in some degree profited by planting the superior species of cane.

Trinidada is a vast, and in parts a rich country, which, if fully settled, might produce a quantity of sugar equal to that of all the other Windward and Leeward Islands. Since coming under British sovereignty, it has imported 4,500 African slaves yearly, and already returns 12,000 hogsheads of sugar.

But if the trade for African slaves should in another year be prohibited, as the concurrent vote of the two Houses of Parliament, at the close of the last session, renders most

* Jamaica, lying deep in the bay of Mexico, to westward, does not supply the American colonies most to the north-east, and who in those latitudes use most of rum, proportionally with the Windward Islands.

most probable, then, and in such case, the settlement of Trinidad will not only be checked in its progress, but its actual plantations must decline with the decrease of negro labourers; for, whatever may be the computation of births and of family increase in ancient and long settled colonies, the decrease of negroes in Trinidad, having no fresh supplies, is to be expected, and indeed morally certain, from the more than ordinary casualties and mortality in all newly-cleared countries of the West-Indies, and from the disproportions of sex, and irregular and undomestic habits of newly imported Africans, precluding a natural recovery and supply of population.

Young's West-India Commonplace Book, 1806.

Valuation of British Property vested in the British Sugar Colonies.

Report Privy Council, 1788.

	Patented Estates, as taxed per Acre.	Negroes.	
Jamaica	1,860,000	280,000	
Barbadoes	106,470	60,000	
Antigua	69,277	36,000	
St. Kitts	43,726	26,000	
Nevis	30,000	8,000	
Montserrat	38,400	9,500	
Virgin Isles	25,000	9,000	
Dominica	100,000	22,083	
St. Vincent's	25,000	15,000	
Grenada	89,000	20,000	
Trinidad	.....	19,709	Negroes, each £50.
Tobago	28,000	14,883	
	2,414,873	560,375	£28,018,750

In the preceding table, the value of negroes is taken at the lowest rate. The extent of patented land admits not of any accurate computation of medium value per acre. Much may be uncultivated, much scarcely cultivable. Besides which, islands and soils not only vary, as productive of the staple articles in quantity, but likewise in quality, inasmuch as five cwt. of sugar from St. Vincent's is equal in value to six cwt. from Tobago.

Without, therefore, any attempt of new appraisement, I take the valuation, as estimated in the Report of the Privy Council in 1778:

Value of 560,375 negroes, at £50 each	£28,018,750
Value in lands, buildings, and stock, double that of negroes	56,037,500
Value in towns, stores, and shipping,	2,500,000
	£86,556,000

Mr. Bryan Edwards, in 1792, valued the capital vested in Jamaica alone, at, then, £39,000,000

Income gives other premises of valuation, as follows:

On produce and net income of	£6,944,142
At twelve years' purchase	12
	£83,332,970

The income on which this valuation is grounded having from depreciation of produce been diminished, the estimate of capital may in this respect be too high; but having become yearly more uncertain, and the very property more precarious, from war and other circumstances, at this period peculiarly affecting the colonies, the number of year's purchase allowed in the official report further seems over-rated: in fact, many estates have been sold at ten, and even at eight years' purchase.

The speculative purchaser may then, for some very few years, receive twelve per cent.; but a season will shortly come of hurricane, insurrection, epidemic disease among his negroes, or ravage by war, and a single such probable contingency will at once and for ever reduce the computation of large interest for his purchase-money. The West-India hereditary landholder, who by himself or family has shared in the losses incident to the nature of his property in every course of years, does not (I will venture on experience to assert) receive four per cent. on the capital laid out in original settlement, adding sums of money since expended in occasionally restoring his estates.

The planters of Grenada and St. Vincent's have twice in sixteen years lost or paid a full third of the principal value of their estates; first, in the year 1780, by purchasing a restoration of property from hurricane; and, secondly, in 1795, from the ravages of insurrection by the Charaibs in St. Vincent's; and of rebellion by the negroes in Grenada.

Young's West-India Common-place Book, 1806.

Imports of Sugar into Great Britain.

On this head, I shall have occasion to dwell at a length proportionate to its importance, and to the materials of proof which I have been enabled to collect and arrange, in clear direction to the inference, "of the charges on sugar being more and heavier than the article can altogether bear."

Should this continue to be the case, the cultivation must necessarily decline, or the commodity find its way in a direct course to other markets, where it is not surcharged with the like impositions, of whatever description. To this alternative the power of Great Britain will oppose the assertion of its colonial monopoly; but the power which cannot be resisted, may at times be evaded. It may be urged, that the contraband of so bulky an article as sugar is difficult; but then, under prevention of freely exporting their produce, the planters may transport themselves, as some have already done, with their implements of husbandry and negroes, to Demerara and other provinces of South America.

Now these provinces, with all their settlements made by the means of British property, and by British planters, must again pass over to the dominion of a foreign power: on every principle of sound policy, Great Britain cannot, and should not, retain these countries on the return of peace. Great continental colonies are neither suited to the extent of British population, nor to the nature of its power: which being of a naval description, can better command or defend islands and maritime posts where inland regulation or force is little required. We can neither spare people for their cultivation, nor soldiers for their defence; nor can we well afford the charge and expense of either. The investment of capital yearly proceeding to, and locked up in, distant and extensive territories, would divert too much of our commercial resources from more active and useful circulation; and the scheme of power necessary for their good order and controul would be corruptive of the habits of our people, and of the principles of our government. Having thus briefly intimated the decided opinion which I entertain on this important subject, I refrain from the further discussion.

Reverting to the imports of sugar, I must consider the decline as probable, from the immediate and progressive distress of the planter, continuing to work for returns inadequate to his labour, rather from any general schemes of migration, or of other resource. He will struggle for awhile to procure the means of subsistence, and of satisfaction to his creditors and consignees: he will be supported for a time by the latter, through liberality or from interest;—shooting forth another arrow, to follow and recover the arrow lost, till the quiver is exhausted, or the archer prudentially desists from further attempts.

From the following documents it will appear, that on the average of six years for each period, and for the like quantity of produce, the West-Indian received in nett income above 50 per cent. less to 1805, than he received to 1796; meanwhile the tax on his produce has been doubled, and the revenue to Great Britain accruing from its colonies hath proportionally increased.

The business cannot long continue on such terms of partnership between Government and any description of its subjects: the planter may for a time struggle to maintain his share, but must ultimately fail; and losing its active partner, the state will have the dead and unprofitable stock on hand, of islands poorly cultivated, and of works and manufacture in decay. This is no extravagant speculation: let the reader examine the tables of produce, charges, and sale, contained in this chapter; observe the results, and compute the consequences!

Sugar imported into Great Britain and Ireland.

Imposed.	DUTIES on SUGAR, &c. per Cwt.					
	Duties.		Price of Sugar-Duty paid.		Price at Market.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*
1770...	6	3	37	0	—	
1771...	6	7	39	0	32	5
1781...	11	8	62	6	50	10
1786...	12	4	52	0	39	8
1794...	15	0	77	0	62	0
1797...	17	6	81	0	63	6
1798...	19	4	86	0	65	8
1799...	20	0	75	0	55	0
1803...	24	0	67	0	40	0
1804...	26	6	80	0	53	6
1805...	27	0	76	0	53	0
1806 *.	30	0	72	0	45	0

DRAWBACKS and BOUNTIES on EXPORT per Cwt. *Vide Acts 43 Geo. III. cap. 11, and 45 Geo. III. cap. 93.*			
If Price, exclusive of duty, do not exceed,	Sugar, Muscovado.	Bounty on Lump.	Bounty on Refined.
s.	*s.*	*s.*	*s.*
35	22	25	40
40	21	25	38
45	20	25	36
58	20	20	34
60	18	18	31
62	16	16	27
64	14	14	24
66	12	12	20
68	10	10	17
70	8	8	13
70 and above.	nil	nil	nil

The

* The additional 3*s.* when it exceeds 50*s.* per cwt. exclusive of duty.

The duty laid, of 3*s.* in 1806, takes 50 per cwt. as a maximum; 51*s.* pays 1*s.*; 52*s.* pays 2*s.*; and 53*s.* pays 3*s.*; so that the planter loses by fall of price, and does not gain by rise of price, at least to the amount of that 3*s.* Young's West-India Common-place Book, 1806.

The bounties are computed on 112 lbs. of raw sugar making 60 lbs. of refined.

By chemical process and observation, 1 cwt. (of 112 lbs.) of raw sugar gives, boiled and manufactured, &c.

	lbs.
Refined lump, or loaves	56
Bastard, or ground	22
Melasses	29
Scum and loss	5
	112 lbs.

At the same time that, from duties yearly imposed, the charge on sugar has become excessive on the planter and vender (for it will shortly appear that the consumer does not pay the duty, the price not advancing proportionally), the freight, and other incidental charges on sugar imported have been increased within the last eight years to a degree which, operating with the duty, has diminished the income and fortune of every West-India landholder at least one-third.

Besides the duty on sugar of 27*s.* with loss per tare, and duty attaching on overweight, 3*s.* on 12 lbs. per hogshead deficient, or 3*d.* per hundred-weight, making 27*s.* 3*d.* per hundred-weight on sugars to 50*s.* price ex-duty; there is four and a half per cent. duty on produce, ad valorem, laid in Barbadoes, Antigua, and the Leeward Islands, equalling 1*s.* 4*d.* per hundred-weight, and which duty was a composition to the King, in lieu of quit rents, &c. on the dissolution of the proprietary governments in 1670.

Four and a half per Cent. Duty.	Gross Revenue.	Charges on Collection.	Net Produce.
	£	£	£
Three years' average, 1790	40,891	16,480	24,413
Three years' average, 1800	71,500	19,960	51,540

The application of this revenue is to the payment of salaries to governors, &c. in the islands, £13,064; the rest in pensions from the crown, &c.

To the Governor of Barbadoes	£2,000
To the Governor of Antigua	1,200
To the Governors of the Windward Islands, each	1,300
To the Governor of the Bahamas	700
To the Governor of Bermuda	600
Chief Justices, Grenada	600
Dominica	400

Mercantile Charges on sugar imported to Great Britain.

	IN WAR.		IN PEACE.	
	Medium Charge per Cwt.		Medium Charge per Cwt.	
	s.	*d.*	*s.*	*d.*
Freight	9	0	5	6
Insurance, 5 per cent. on £25.	2	0	0	8
Dock dues	0	10	0	10
Brokerage	0	5	0	4
Commission, &c.	2	5½	1	10
Loss by tare	0	3½	0	3
	15	0	9	7
Charge on stores, £5 per hhd. is per cwt.	8	0	7	0
	23	0	16	7

In the above table, the charges severally on tare, and for stores sent out, require explanation. The total war charges are:

Say one hundred-weight, gross price	70*s.*
Duty, 27*s.* / Charges, 23*s.*	50
Nett to planters	20

On a hogshead of 13 cwt. £13.

On

Young's West-India Commonplace Book, 1806.

On weighing an hogshead of sugar, tare is allowed, as per following table: on sale, the allowance of weight for cask, &c. is not sufficient, the actual sugar, on average, being 10lb. less weight in each hogshead; and on these 10 lb. deficient, the planter has paid duty, 3*d.* per lb., and freight 1*d.*; being 3*s.* 8*d.* the hogshead, 13 cwt., and 3½*d.* the cwt.

Tare, from actual Weights, &c.

	Weights.			Tare allowed.			Tare deficient.	Gross Weights.		
	Cwt.	Qrs.	lbs.	Cwt.	Qrs.	lbs.	lbs.	Cwt	Qrs.	lbs.
Antigua sugar.....	13	2	0	1	0	20	9	14	3	1
St. Vincent's ditto.....	14	1	0	1	1	20	10	15	3	2
Tobago ditto.....	13	0	12	1	1	18	12	14	2	24

STORES.

It is generally computed, that the annual export from Europe of negro clothing and provisions, coppers and hardware, for use of estate, &c. &c. will cost, with freight, £1.000, for an estate of 200 negroes, and returning produce 200 hogsheads of sugar, or other produce of like amount and value: this being £5 per hogshead, is charged 8*s.* per cwt.; and on recurring to actual account of stores for three estates, returning an hogshead per negro, the estimate is just.

But it is obvious, that when 200 negroes return but 150 hogsheads, the charge per hogshead must be greater; and, in truth, the planters of Jamaica estimate the charge for that island at (the account for stores from Europe) 12*s.* per cwt., making the total charge per cwt. 54*s.*

Besides stores sent out, even from the most economical and well-regulated plantation in the West-Indies, some bills will and must be occasionaly drawn for taxes, or for the purchase of a few negroes to keep up the stock, or on other contingent accounts: and these taken in the estimate, 12*s.* per hundred-weight is by no means an overcharge.

Distribution of Proceeds from a Hogshead of Sugar of 13 Cwt. sold, at gross Price per Cwt. 77*s.* which, in 1805, is at the Maximum of 50*s.* Ex-Duty, 27*s.* per Gazette Price; a further Duty attaching if Sugar exceeds 50*s.* per Cwt.

	1805, 77*s.* per Cwt.					1795, 77*s.* per Cwt.				
	Per Cwt.		Per Hogshead, 13 Cwt.			Per Cwt.		Per Hogshead, 13 Cwt.		
	s.	*d.*	£	*s.*	*d.*	*s.*	*d.*	£	*s.*	*d.*
Duty, and on tare.....	27	3	17	14	3	15	0	9	15	0
Freight, ditto on ditto	9	1	5	18	1	7	6	4	17	6
Insurance on £25.	2	0	1	6	0	2	0	1	6	0
Port Charges	0	10	0	10	10	1	2	0	15	2
Merçhants' Commission, &c.&c. 3 per cent.	2	10	1	16	10	2	4	1	10	4
Total.....	42	0	27	6	0	29	0	18	4	0
Stores.....	12	0	7	15	0	10	0	6	10	0
Planter's income nett	23	0	13	9	0	38	0	25	7	0
Total.....	77	0	50	1	0	77	0	50	1	0

In this table sugar is taken at the maximum of 50*s.* per cwt., from which under the new duty imposed in May 1806, no excess of price, as far as 3*s.* per cwt., goes to the planter; the excess from 50*s.* to 53*s.* being taken in revenue by Government.

But in fact the Gazette price of sugar for July 1806 is, extra-duty 41*s.* per cwt; and without bringing plantation stores per contra, the account of depreciation and loss of planter's income will appear from the result of the following table, on which some further observations will occur on the heads of different mercantile and other charges, on the cwt. of sugar.

Prices

Prices, Charges, and Proceeds of a Hundred-weight of Sugar, at different Periods.

Young's West-India Commonplace Book; 1806.

	Ex-Duty.	Included Duty.	CHARGES.			NETT PROCEEDS.		Actual Sales per Hogshead, nett.	
	Gazette Price per Cwt.	Sale Price.	Duty.	Mercantile Charges.	Total.	Per Cwt.	Per Hogshead of 13 Cwt.	Sugars Tobago.	Sugars St. Vincent's.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	£. s. d.	£. s. d.	£. s. d.
1791	55 0	67 4	12 4	8 6	20 10	46 6	30 4 6	—	31 8 0
1792*	57 0	69 4	12 4	8 6	20 10	48 6	31 10 6	—	32 6 0
War.									
1793	58 0	70 4	12 4	12 0	24 4	46 0	29 18 0	21 15 0	27 16 0
1794	39 0	54 0	15 0	12 0	27 0	27 0	17 11 0	16 6 0	20 16 0
1795	62 5	77 5	15 0	12 6	27 6	49 11	32 4 7	30 0 0	35 15 0
1796	62 0	77 0	15 0	12 6	27 6	44 6	32 3 6	28 5 0	34 0 0
1797	64 0	81 6	17 6	13 0	30 6	51 0	33 3 0	30 18 0	37 0 0
1798	66 8	86 0	19 4	13 0	32 4	53 8	34 17 8	34 8 0	37 18 0
1799	55 0	75 0	20 0	13 6	33 6	41 6	26 19 6	15 0 0	23 18 0
1800	54 0	74 0	20 0	13 6	33 6	40 6	26 6 6	21 10 0	23 16 0
1801	44 0	64 0	20 0	14 0	34 0	30 0	19 10 0	19 2 0	21 4 0
1802	34 0	54 5	20 0	14 0	34 0	20 5	13 5 5	14 18 0	18 14 0
1803	43 0	67 0	24 0	10 0	34 0	33 0	21 9 0	18 10 0	28 0 0
1804	53 6	80 0	26 6	14 0	40 6	39 6	25 15 6	22 0 0	27 10 0
1805	49 0	76 0	27 0	14 6	41 6	34 6	22 8 6	16 0 0	22 17 0
1806	41 0	68 0	27 0	15 0	42 0	26 0	16 18 0	—	—

The stores sent out to the plantations not being brought to account in sugar sales, but in yearly account current with the planter, are not inserted in the preceding table.

Other articles of mercantile charge, freight, &c. have risen progressively, as in ordinary course during war, and from enhancement seamen's wages, and of every necessary of outfit and conveyance.

But besides the gradual rise incident to trade generally, the charges on import of sugar are subject to occasional and great advances in freight from dearth of shipping; in insurance from dangers of navigation; in taxes imposed yearly, as a matter of course; and from a surcharge of mercantile commission on all these.

Freight from the Leeward Islands has risen; during the war, 2*s.* the cwt. of sugar, and 1*s.* surcharge further is in view, or 10*s.* per cwt. this season of 1806; and for this the ship-owners have in plea the extraordinary demurrage in awaiting convoys, and the increased expense of seamen's wages and of provisioning, in addition to wear and tear of ships, and loss of time from occasional embargoes, whether in the West-Indies or at Portsmouth.

Insurance.—The ordinary premium of £10 per £100 to return £5 or 5 per cent. has occasionally risen to 20 per cent, as in May 1805, under the apprehension of a naval superiority of the enemy in the West-India seas; and the frequent fluctuation of price is ever to the disadvantage of the commodity insured.

Duties, from 1802, have been yearly imposed, to the prejudice of the just profits, or chance of profits, by the sugar-planters; and latterly, in the teeth of every principle of equity respecting trade, and its losses and gains. By the duty imposed, May 1806, it is expressly said to the planter, "When your sugar is at the merely saving and moderate "price of 50*s.* per cwt., if it falls 3*s.* you shall stand the loss; if it rises 3*s.* Government "will take the gain."

Commission and brokerage, as mercantile charges, are together 3 per cent., but being charged on the gross sales, and the planter paying commission on all the aggravations of tax, freight, &c. to the amount of 42*s.* per cwt. he pays, in fact, 6 per cent. on his moiety of nett proceeds, when sugar is at 84*s.* gross sales; and as sugars fall to 72*s.* and lower, pays for his share and income, 8, 10, and even 12 per cent., commission, &c.

Results:—

For six years, ending 1799, the medium nett value of the hogshead of sugar was.....	£32 0 0
For six years, ending 1806, the medium nett value was	20 7 2
Depreciation and loss to the planter	11 12 10
And this, on a moderate estate of 150 hogsheads, is, per annum, a loss of	£1,746 5 0

Young's West-India Common-place Book; 1806.

Adverting to the fact of this depreciation, constant and progressive as it has been, it is adding insult to exaction, to tell the West-India planter that he does not pay the sur charges, or, in direct words, that he does not pay the whole of the seven shillings tax per hundred-weight, laid on sugar since January 1803.

And this 7*s.* per cwt. is, per hogshead, ...	£4	11	0
And on 150 hogsheads is, per annum, a deduction of income	682	10	0

Besides this direct loss of income, at least 38 per cent., it cannot escape notice in the estimate, that as every other British subject, so the West-Indian yearly pays dearer for every article of subsistence: but further, he pays dearer "for his coppers, stills, nails, "tools, clothing, and provisions, all purchased in Great-Britain, of British produce and "manufacture, for stores and supplies to his plantations in the West-Indies; to the "amount of above five millions value sterling of British produce and manufacture."

Thus have the landed West-Indians' property and income fallen off, during a period in which the British landholder has, at a medium, raised his rents 10 per cent., and during which every trader has made a surcharge and profit answerable to his increased expenditure.

The facts above stated rest on documents not to be controverted; yet say the British public, "sugar is dear, and the consumer pays." This to a degree is true, and the question then is, "who receives?" On inference from the following table, I leave that question between the factor, sugar-baker, and grocer.

It is premised that, on accurate experiment, an hundred-weight of sugar gives, manufactured, say at 80*s.* per			*s.*	*d.*
cwt. refined lump, ...	56 lbs. at 1*s.*...		56	0
Bastards.....	22	8*d.*...	14	6
Melasses	29	4*d.*...	9	6
Dreg	5			
	112 lbs.		80	0
15 per cent. trade			10	0
Estimate of due price			90	0

Now, referring to the above computation, the actual sworn prices at Grocers'-hall, in 1805-6, were as follows; and in result, the 56 lbs. refined pays the whole, and the molasses and bastards appear clear profit.

Prices per Grocers' Table.

	Refined Loaf per lb.		Medium per lb.	Value of 56 lb.		Paid per cwt. for raw sugar.	Med. Value of Bast. and Melass. per cwt.	Profit per cwt.	
	d.	*d.*	*d.*	*s.*	*d.*	*s.*	*s.*	*s.*	*d.*
1796	16 to	19	17½	81	4	77	24	28	4
1797	16	19	17½	81	4	76	24	29	4
1798	17	20	18¼	86	4	89	24	21	4
1799	18	22	20½	93	4	91	24	26	4
1800	15	18	16½	77	0	65	24	32	0
1801	16	19	17½	81	4	79	24	27	4
1802	15	18	16½	77	0	62	24	39	0
1803	15	18	16	77	0	62	24	39	0
1804	16	19	17½	81	4	72	24	33	4
1805	17	20	18½	86	4	80	24	30	4
1806	16	19	17	79	4	75	24	28	4

The trader's profit is in ratio with the planter's loss.

On the subjects of Duty on Sugar, as relative to the price of Sugar.

The observation occurs and is obvious, that the duty bears unequally; and that under the Gazette medium valuation of the hundred-weight of sugar of 50*s.* one quality of sugars selling at 60*s.* whilst another sells so low as 40*s.*, the duty of 27*s.* subtracted from the sale price of 87*s.* is proportionally a less deduction than 27*s.* taken from 67*s.*

For relief in this respect, let the planter attend to the ameliorating the process in his boiling and curing-house, and attempt the bringing his sugar to a better quality, and nearer to one standard, but let him not seek a relief most prejudicial to him in the consequences, by calling for a duty ad valorem. It might truly be urged, that a system of

of low duties, in proportion to the inferiority and badness of the article, is a premium on bad and negligent manufacture.

Young's West-India Commonplace Book; 1806.

But to the planter I earnestly state that the very inequality of the present duties, in their application, is his best and only security against excessive new imposition.

If the duties were to be regulated ad valorem, I have no doubt that in a few years the worst class of sugars would pay the same rate of duty which they do at present, whilst an excuse would be furnished to Government in its necessities of gradually loading sugars of better quality to double the present amount of tax. The late duty of 3*s* imposed on sugars, when at the Gazette price above 50*s*., is an experiment of duty ad valorem, which should make the planter aware of the policy in finance, which his representations on this head may suggest, and that any equalization of duties in reference to value, will rather be carried into effect by a proportional addition of tax on the commodity of higher price, than from any abatement on that which is of lower value.

On sugar re-shipped to foreign Europe and the export trade it is to be observed, that for fourteen years, to 1787, and indeed for twenty years, to 1793, the sugars exported did not yearly exceed the average of 12,000 hogsheads; and this export was not of an extent, if stopt at any time and thrown back on the home market, to affect the sale and price of sugars much, which kept to a steady and regular value, progressive with the advancement in price of other articles of subsistence and use.

In 1773, the hogshead of sugar produced nett	£17	10
1787, the hogshead produced	21	0
1791-92, the hogshead produced	30	0

Respecting the export trade in prices commencing 1791-92, and ending in 1805, it is to observed, that from the year 1792, the French Revolution operating to the ruin of St. Domingo, which great island heretofore supplied France and Europe with 1,490,000 cwt. of sugar yearly, the failure of that sugar colony excited the industry and speculations of the British planters, especially in Jamaica, and they extended their settlements, with the aid too of the more productive Bourbon cane, so as in 1801 to send to Europe one-third more sugar, or nearly one million cwt. above the returns of the same article in 1787.

The home consumption, within the period, having but little increased, an enlarged export trade was required even for the produce of the ancient British islands, to the amount of 90,000 hogsheads of sugar, not to glut the home market, and depreciate its sale and value to the planter, and an export to this amount will henceforward be requisite.

But further, in the course of the war with France and Holland from 1794 to 1806, some French islands, and particularly the Dutch continental sugar colonies of Demerara and Surinam, coming by conquest under the British government, sent in course their produce to the British market, which required an increased export of 30,000, in total 120,000 hogsheads. On the eventual failure of the foreign market, and of export in whatever proportion to this amount, and which amount has been increasing upon us, from the (fatally for our ancient colonies) encouraging speculations of further settlements and plantations in Demerara, the home market is then glutted and the article of sugar depreciated of late years, and more particularly at present (1805-6), from the failure of, or embargo on, the foreign market, devised and enforced by the enemy. In respect generally to British export trade, the depreciation of sugar is such, that the hogshead of sugar, which from 1792 to 1799 produced an income to the grower of above £30, now produces (1806), on a medium, prices under £16 per hogshead.

A clamour has been raised against the import of sugar from the British East-Indies, but has been raised probably by those speculators, who glutting the markets from Demerara and Surinam, seek to divert the British colonist's attention from the real causes of the depreciation of his property and income.

The East-India import of sugar is but little in the scale.

FOURTH APPENDIX

TO THE

REPORT ON THE SUGAR TRADE.

A STATEMENT of Duties payable on East and West India Sugar.

Duties payable on Sugar.

IN the year 1787, by the Consolidation Act of the 27th Geo. III, cap. 13, the home consumption duty upon West India brown or muscovado sugar, was fixed at twelve shillings and four-pence per hundred-weight; and upon white sugar, at one pound nine shillings per hundred-weight. At that period, the trade in East India sugar did not exist, and, of course, it was not rated by name, but fell into the general clause for imposing a duty upon unnamed manufactured articles, which duty amounted to £.37. 16*s.* 3*d.* per cent, payable out of the sale price at the India House.

In 1791, by the 31st Geo. III, cap. 15, an additional duty of two shillings and eight-pence was imposed upon all West India sugar, making the duty upon brown or muscovado sugar amount to fifteen shillings per hundred-weight, and upon white or clayed West India sugar, to £. 1. 11*s.* 8*d.* per hundred-weight: but no alteration was made in the duty on East India sugar, leaving it as before, a manufactured article not enumerated in the book of rates, at £.37. 16*s.* 3*d.* per cent, payable out of the sale price.

In 1797, by the 37th Geo. III, cap. 15, a further duty for home consumption, of two shilling and sixpence per hundred-weight, was imposed upon all sugar, raising the duty upon West India muscovado, to seventeen shillings and sixpence per hundred-weight; and upon West India clayed, to £. 1. 14*s.* 2*d.* per hundred-weight. The duty upon East India sugar, of all kinds, was therefore £.37. 16*s.* 3*d.* per cent. on the value, and 2*s.* 6*d.* per hundred-weight.

In the same year 1797, by the 37th Geo. III, cap. 43, sugar was allowed to be warehoused, and to be exported from the warehouses without payment of any duties whatever; but, if taken out for home consumption, the duties, of course, were to be paid. This measure operated (which was probably accidental) to give some relief to East India sugar for home consumption, as the duty was by this act calculated *upon* the sale amount, instead of being paid *out* of it; *i. e.* the home consumer paid £.37. 16*s.* 3*d.* out of £.137. 16*s.* 3*d.* instead of the former mode of payment through the Company, of £.37. 16*s.* 3*d.* out of £.100.

In 1798, by the 38th Geo. III, cap. 76 (Convoy Act) a duty was charged on East India sugar, of three per cent. on its value, payable by the East India Company; and on West India sugar, of one shilling and ten-pence per hundred-weight, payable by the importer. Export duties were levied of two and a half per cent on East India sugar, and of one shilling and sixpence halfpenny per hundred-weight on West India sugar. These duties have ceased.

In 1799, by the 39th Geo. III, cap. 59, (the East India Warehousing Act) an additional duty of two per cent was imposed upon the value of all East India sugar imported, payable by the East India company. No increase of duty took place upon West India sugars.

A further act of parliament was passed in the year 1799, for regulating the duties upon sugar, which Act contains the first decided instance of inequality in the duties upon East India and West India sugars, and may be considered as the origin of that marked preference to West India sugars, of which the importers of East India sugars complain, being as follows:

By the 39th Geo. III, cap. 63, a further duty of eight-pence per hundred-weight was levied upon brown or muscovado sugar imported from the West Indies, and of four shillings per hundred-weight upon white or clayed sugars imported from the West Indies; a duty of eight-pence per hundred-weight was also levied upon brown or muscovado sugar imported from the East Indies, but no mention is made of white or clayed sugar from the East Indies: it being then considered that the East India sugar, although it might appear somewhat clean, was not in reality liable to be considered as white or clayed. But by this act, a duty of six shillings and sixpence per hundred-weight was imposed upon all East India sugar, when exported from England to the continent of Europe; and no duty was charged on British plantation sugar, when so exported, giving West India sugar a decided preference in the foreign markets. Even foreign plantation sugar was charged with a duty of only two shillings and sixpence per hundred-weight on exportation. The unreasonableness, not to say injustice, of this tax, soon became apparent; and the duty of six shillings and sixpence on East India sugar, when exported, was conditionally repealed in the same year in which it was imposed. *See* the 39th Geo. III, sess. 2, cap. 12; and,

Duties payable on Sugar.

In 1800, by the 39th and 40th Geo. III, cap. 48, the before-mentioned act of 39th Geo. III, cap. 63, which imposed the duty of six shillings and sixpence per hundred-weight on East India sugar, when exported to foreign parts (West India sugar not being subject thereto) was absolutely repealed, any bonds given for payment thereof were directed to be cancelled, and any arrears thereof were not to be recovered.

In 1803, by the General Consolidation Act of the 43d Geo. III. cap. 68, the home-consumption duty on all East India sugar was converted from an ad valorem duty to a rated or fixed duty, of one pound two shillings per hundred-weight; and the duty upon West India brown or muscovado sugar, was fixed at one pound per hundred-weight; and upon West India white, or clayed, at one pound three shillings and four-pence per hundred-weight.

In the same year, 1803, by the 43d Geo. III, cap. 70, (war duties) the sum of twenty per cent was levied upon the amount of the permanent duties on all sugars, whether East or West India, as fixed by the Consolidation Act of the 43d Geo. III, cap. 68, if used for home consumption.

In 1804, by the 44th Geo. III. cap. 53, a further (war) duty of £.12 10s. od. per cent. was levied upon the amount of the permanent duties.

In 1805, by the 45th Geo. III, cap. 29, a still further (war) duty of two and a half per cent. was levied on the permanent duties upon sugar, whether East or West India, when used for home consumption.

In 1806, by the 46th Geo. III. cap. 42, a still further (war) duty of fifteen pounds per cent. was levied on the permanent duties upon sugar imported from the West Indies; and of four shillings per hundred-weight on sugar imported from the East Indies: an instance of preference in the home market was thus afforded to the West India sugars, by the amount of the difference between fifteen per cent on twenty shillings which is equivalent to an additional duty of three shillings per hundred-weight upon West India muscovado, and the fixed sum of four shillings per hundred-weight, which was levied in addition upon East India sugars.

In 1807, by the 47th Geo. III, cap. 22, a conditional bounty was allowed upon the exportation of West India muscovado sugar, of two shillings, or one shilling, according to the Gazette price of sugar; to continue one year. *See* also the act of the same Session, cap. 29.—No bounty of the same kind on East India sugar exported. Continued by the 48th Geo. III, cap. 12, for another year; and by the 49th Geo. III, cap. 10, further continued until 25th March, 1810; and by the 50th Geo. III, cap. 9, until the 25th March 1811; and by the 51st Geo. III, cap. 2, continued until the 25th March, 1812. *See* also Indemnification for Officers, who levied certain duties on sugar by 51st Geo. III, cap. 27. Additional bounties further continued by 52d Geo. III, until 25th March 1813; and by 53d Geo. III, cap. 31, until 25th March, 1814.

In 1809, a further consolidation of customs was enacted. By this law, the 49th Geo III, cap. 98, the permanent duty upon West India brown or muscovado was fixed at

	£.	s.	d.
And the temporary or war duty at	1	–	6
Total duty on West India muscovado per cwt.	–	9	6
Upon West India clayed, the permanent duty	£.1	10	0
Temporary or war duty	1	3	11
Total duty on West India clayed	–	11	1
East India sugar without distinction as to muscovado or clayed, permanent	£.1	15	–
Temporary or war duty	£.1	2	6
Total duty on East India sugar	–	10	6
	£.1	13	–

And by this act a reduction of one, two, or three shillings, upon the home consumption duties on all sugars, is made, if the average price of muscovado sugar, as published in the London Gazette, shall fall below certain prices therein stated. By this act it is ordained, that refined sugar produced from East India muscovado, shall receive the same bounty on exportation, as refined sugar produced from West India raw sugar.

On the 15th April 1813, by the 53d Geo. III, cap. 33, a further war duty of twenty-five per cent. was levied upon the permanent duties payable upon the importation of all sugars, whether East or West India.

On the 17th of December 1813, by the 54th Geo. III, cap. 36, the *whole* of the existing duties upon East India sugar were repealed, and new duties enacted as follows, to continue until the 10th April, 1819, viz.

	£.	s.	d.
Permanent duty per hundred-weight.	£.1	10	6
Temporary or war duty	–	9	6
	£.2	–	–

In May 1814, by the 54th Geo. III, cap. 64. the war duties upon West India sugar were continued until 5th July, 1815.

In

In December 1814, by the 55th Geo. III, cap. 3. the duties upon West India sugars were further continued until the 25th March 1816. These duties were again continued by the 55 Geo III. cap. 33, until the 5th July 1816. Duties payable on Sugar.

On the 2d May 1815, the 55th Geo. III, cap. 32. was passed to rectify a mistake in the act of the 55th Geo. III. cap. 3, above-mentioned, as by the manner in which that act was worded, East India sugars became subject to the operation of the temporary or war duty, imposed on all sugars by the acts of 54th Geo. III, cap. 64, and 55th Geo. III. cap. 3, till the 25th March 1816; in fact, were liable to be charged twice with the temporary duties, which was not intended.

In May 1816, by the 56th Geo. III. cap. 29, the temporary or war duties upon West India sugars were made permanent.

In May 1819, by the 59th Geo. III, cap. 33, the act of the 54th Geo. III. cap. 36 which levied 40*s.* per hundred-weight upon East India sugars until the 10th April 1819 was continued until the 1st July 1821.

In July 1819, by the 59th Geo. III, cap. 52 (consolidation) all the existing duties on sugar, including West and East India sugars, were repealed, and the following were fixed in lieu thereof; viz.

On West India sugar, brown or muscovado, at - - £.1. 10*s.* per hundred-weight.
On white or clayed - - - - - - - £.1. 15*s.* ditto.
East India sugars, without distinction as to white or brown, £.2. 0*s.* ditto.

In July 1821, by the 1st and 2d Geo. IV, cap. 106, the existiug duty on East India sugar was repealed, and the following imposed in lieu thereof; viz.

On white or clayed sugar, - - - - £.2. 5*s.* per hundred-weight.
On brown or muscovado - - - - - £.2. 0*s.* ditto.

This is the first act which makes any distinction in the qualities of East India sugar.

And by this act, all sugar, the produce of the East India Company's territorial possessions, is required to be accompanied with a certificate of origin, to entitle it to entry for home consumption, on payment of these duties.

All sugar, the growth of China, Java, the Eastern Islands, &c. is charged with a heavy duty, amounting, as no doubt it is intended, to positive prohibition against its being used for home consumption.

This act was to expire on the 25th March 1823; but,

In August 1822, by the 3d Geo. IV, cap. 106, the act of the 1st and 2d Geo. IV. cap. 106, is further continued until the 25th March 1824.

MEMORIAL to the Right Honourable the Lords Commissioners of His Majesty's Treasury. [7th April 1821.]

The Memorial of the Court of Directors of the East India Company;

SHEWETH,

THAT your Memorialists, understanding there is a proposition before your Lordships for increasing the duty upon East India sugar, beg leave to submit to your Lordships, certain observations thereupon, in the hope that your Lordships will see it proper not to carry the said proposition into effect:—1st. It is understood to to be proposed to increase the duty upon East India sugar from 40*s.* per cwt. to 42 *s.* 6*d.*; the duty upon West India sugar remaining at 30*s.* per cwt. Memorial of the Court of Directors.

Your Memorialists respectfully represent to your Lordships, that there is at this time, and has long been, a loss upon East India sugar; and further, that by far the greater part of such sugar is at present imported into England for re exportation.

If it be asked, why is East India sugar continued to be brought? the answer is, that a ship must at least have half of her cargo in dead weight; the indigo, silk, drugs, &c. not being sufficiently ponderous to bring a ship into a sailing trim; and if the fine goods were sufficiently heavy, the value of the cargo, if wholly consisting of such articles, would be too great for the risk of a single bottom: for dead weight there is no article so suitable as sugar, although, as before observed, it produces a loss. To bring saltpetre, instead, would be still more disadvantageous; and the loss upon rice would be absolutely ruinous—2dly. It is proposed to charge 5*s.* per cwt. additional upon sugar equal in quality to West India clayed sugar; making 45*s.* per cwt. on such East India sugar.

The quantity of East India sugar brought to England, which from its whiteness might be considered equal to clayed sugar, is very small, and in point of fact, the best East India sugar is very inferior to that produced in the West Indies, both in sweetness and strength; it is manufactured in a very inartificial way, without the use of clay at all, and from its want of grain is altogether unfit for the refiner. The term of "equal to West India clayed sugar" not admitting of an exact definition, the distinction would depend upon the opinion, whether well or ill-founded, of the revenue officer; and what might be considered equal to "clayed" in London, might possibly be classed with "muscovado" at Liverpool, or elsewhere. Further, without meaning to impute blame to the revenue officers, it appears to your Memorialists, that the wish of those persons to do their duty with zeal to the public, would not fail to cause endless disputes with the merchants, and annoying appeals to the authority of your Lordships. The standard of "clayed" being merely ideal, would certainly be different at different ports, with different revenue officers at the same port, and probably at different times

Memorial of the Court of Directors.

times with the same officer. In short, in the apprehension of your Memorialists, it would not be possible to conduct business under such circumstances; and East India sugar would in practice stand a prohibited article from the home market.

3dly. Sugar of China, Java, and other countries not within the British dominion, are proposed to pay duty as foreign West India sugar.

Your Memorialists can have no objection to urge against the measure under this head, further than that it would seem to require the introduction of an odious system, namely, either that all sugar from the British dominions in the East Indies, or that all East India sugar not of the British dominions, should be accompanied by a certificate of origin.

If these new duties are meant as an increase of the British revenue, your Memorialists feel convinced that they will produce no such effect, but rather the opposite; whilst it is to be feared, that the adoption of the proposed measure, augmenting as it must the number of vexatious fiscal distinctions and niceties in the management of commerce, will have the consequence, which must be deprecated by all parties, of driving the East India trade from these kingdoms: Superadded to which considerations, it is the duty of your Memorialists to observe, that the difficulties thrown in the way of the consumption of sugar imported from British India, must, so far as they go, tend to the injury of the revenues, and to check the cultivation, of that country.

Your Memorialists, therefore, pray that your Lordships will be pleased to take these circumstances into your consideration, and that your Lordships will not extend your sanction to the proposed increase of duty upon East India sugar.

(Signed) *J. Dart*, Secretary.

East India House, 7th April, 1821.

AN ACCOUNT of the Quantity of Sugar imported into Great Britain, from the 5th January 1792 to the 5th January 1822, distinguishing each Year, and the several Sorts of Sugar.

YEARS ending 5 January	QUANTITY IMPORTED INTO GREAT BRITAIN. British Plantation.	Foreign Plantation, including the Produce of Martinique and Guadaloupe.	East India.	TOTAL of all Sorts Imported.
	Cwts.	*Cwts.*	*Cwts.*	*Cwts.*
1793	Uncertain; papers destroyed by the fire at the Custom House			1,989,230
1794				2,194,726
1795	2,336,416	- - -	88,084	2,519,181
1796	- - - -	- - -	163,341	2,151,272
1797	- - - -	- - -	105,937	2,240,299
1798	Uncertain; papers destroyed by the fire at the Custom House.		116,491	2,139,887
1799			163,221	2,699,863
1800			120,471	3,390,974
1801			226,538	3,164,474
1802	- - -	- - -	61,213	3,976,564
1803	- - - -	- - -	57,381	4,297,079
1804	2,943,639	144,282	97,928	3,185,849
1805	2,976,384	146,767	125,155	3,248,306
1806	2,922,570	131,858	124,360	3,178,788
1807	3,666,196	111,760	37,227	3,815,183
1808	3,490,130	32,594	118,586	3,641,310
1809	3,455,832	225,066	72,587	3,753,485
1810	3,394,185	580,813	26,200	4,001,198
1811	3,771,060	988,363	49,240	4,808,663
1812	3,647,142	250,079	20,322	3,917,543
1813	3,551,449	139,088	72,886	3,763,423
1814	* 3,500,000	450,000	50,000	4,000,000
1815	3,403,793	581,681	49,849	4,035,323
1816	3,493,116	366,027	125,639	3,984,782
1817	3,440,565	192,780	127,203	3,760,548
1818	3,563,741	105,916	125,893	3,795,550
1819	3,665,520	138,032	162,395	3,965,947
1820	3,785,434	86,048	205,527	4,077,009
1812	3,623,319	162,994	277,228	4,063,541
1822	3,734,292	197,402	269,162	4,200,856

Exclusive of prize East India sugar.

Note.—The Records of the year ending 5th January 1814, having been destroyed by fire, the importation of Sugar, as stated in the above account for that year, is founded, upon an estimate.

Sugar Exported.

AN ACCOUNT of the Quantity of Raw and Refined Sugar exported from Great Britain, from the 5th January 1792 to the 5th January 1822; distinguishing each Year, the several Sorts of Sugar; and reducing the Quantity of Refined into its proper proportion of Raw Sugar.

YEARS ending the 5th January	QUANTITY EXPORTED FROM GREAT BRITAIN. RAW SUGAR. British Plantation.	Foreign Plantation.	East India.	TOTAL of Raw Sugar exported.	REFINED SUGAR. Actual Quantity exported.	The same stated as Raw Sugar in the Proportion of 34 Cwt. of Raw to 20 Cwt. of Refined.	TOTAL of all Sorts stated in Cwts. of Raw Sugar.
	Cwts.	*Cwts.*	*Cwts.*	*Cwts.*	*Cwts.*	*Cwts.*	*Cwts.*
1793	- -	- not stated. -		- -	236,217	401,569	401,569
1794					115,450	196,265	196,265
1795					303,999	516,798	516,798
1796	250,086	92,278	23,369	365,733	264,300	449,310	815,043
1797	183,307	139,844	43,464	366,615	188,013	319,622	686,237
1798	359,050	130,593	71,636	561,279	179,344	304,885	866,164
1799	532,409	152,865	115,530	800,804	248,534	422,508	1,223,312
1800	238,574	112,032	59,446	410,052	122,638	208,485	618,537
1801	615,280	271,825	94,625	981,730	397,542	675,821	1,657,551
1802	409,106	158,074	67,888	635,068	333,942	567,701	1,202,769
1803	- -	not stated.	- -	1,142,729	531,787	904,038	2,046,767
1804	592,148	142,259	28,512	762,919	547,274	930,366	1,693,285
1805	266,414	137,325	50,416	454,155	382,224	649,781	1,103,936
1806	298,354	126,932	14,377	439,663	390,013	663,022	1,102,685
1807	213,121	83,826	10,852	307,799	415,080	705,636	1,013,435
1808	596,856	42,657	20,398	659,911	413,960	703,731	1,363,642
1809	244,315	60,983	49,061	354,359	327,243	556,313	910,672
1810	276,334	420,226	16,887	713,447	460,732	783,244	1,496,691
1811	90,480	519,320	7,095	616,895	413,208	702,454	1,319,349
1812	275,991	239,153	4,032	519,176	100,996	171,693	690,869
1813	310,803	356,546	6,964	674,313	284,617	483,849	1,158,162
1814	*430,500	410,000	10,000	850,500	450,000	765,000	1,615,500
1815	553,771	462,958	41,311	1,058,040	555,335	944,069	2,002,109
1816	491,152	311,418	68,422	870,992	609,247	1,035,719	1,906,711
1817	377,149	191,303	102,056	670,508	584,182	993,109	1,663,617
1818	258,265	132,937	95,494	486,696	697,085	1,185,044	1,671,740
1819	267,602	108,688	110,323	486,613	711,185	1,209,014	1,695,627
1820	218,384	102,709	88,214	409,307	525,219	892,872	1,302,179
1821	179,402	138,297	186,603	504,302	679,561	1,155,254	1,659,556
1822	149,203	186,326	147,283	482,812	645,357	1,097,107	1,579,919

* *Note.*—The records of the year ending 5th January 1814, having been destroyed by fire, the exportation of Sugar, as stated in the above Account for that year, is founded upon an estimate.

Sugar for Home Consumption.

AN ACCOUNT of the total Quantity of West and East India Sugar entered for Home Consumption, in the several Years from 1814 to 1822, inclusive.

YEARS ending 5 January	West India Sugar charged with the Duty in Great Britain for Home Consumption. Cwt.	qrs.	lbs.	East India Sugar charged with the Duty in Great Britain for Home Consumption. Cwt.	qrs.	lbs.	TOTAL charged with the Duty in Great Britain for Home Consumption. Cwt.	qrs.	lbs.
1814*	—			—			—		
1815	3,030,042	1	23	12,916	1	–	3,042,958	2	23
1816	2,941,735	3	8	42,707	1	2	2,984,443	–	10
1817	3,220,594	2	26	33,130	2	6	3,253,725	1	4
1818	4,151,238	2	24	27,059	–	4	4,178,297	3	–
1819	2,672,226	–	7	24,775	–	23	2,697,001	1	2
1820	3,283,058	3	24	99,440	1	12	3,382,499	1	8
1821	3,661,730	3	27	83,231	2	12	3,744,962	2	11
1822	Account not delivered to Parliament.								

* Uncertain, the records having been destroyed by fire.

Duties paid on Sugar.

AN ACCOUNT of the Amount of Duties received on Sugar imported into Great Britain, sort of Sugar; also of the Amount of Drawbacks and Bounties the Duties on Sugar in

YEARS ending 5 January	Gross Receipt of Duties on Sugar.				Amount of Drawbacks			
					Drawback on Raw Sugar			
	British Plantation.	Foreign Plantation.	East India.	TOTAL on all Sorts.	British Plantation.	Foreign Plantation.	East India.	
	£.	£.	£.	£.	£.	£.	£.	
1808	Uncertain for the first seven years, the records having been destroyed by fire. The year ending the 5th January 1814, is partly estimated.			4,311,495	Uncertain for the first seven years, the records having been destroyed by fire. The year ending the 5th January 1814, is partly estimated.			
1809				5,068,061				
1810				4,784,170				
1811				4,844,673				
1812				4,586,018				
1813				5,105,685				
1814				5,232,886				
1815	4,239,583	353,455	22,267	4,615,305	138,873	788	-	-
1816	4,379,159	65,838	73,332	4,518,329	86,977	269	-	-
1817	4,572,043	79,349	63,315	4,714,707	47,332	10	-	-
1818	5,604,374	8,034	50,057	5,662,465	43,788	- -	-	-
1819	4,009,870	2,118	49,549	4,061,537	42,673	- -	40	
1820	4,610,234	924	191,081	4,802,239	21,342	- -	20	
1821	4,946,685	1,011	154,083	5,101,779	11,467	- -	-	-
1822	4,944,337	1,075	217,138	5,162,550	- -	- -	-	-

Duties paid on Sugar.

from the 5th January 1807 to the 5th January 1822; distinguishing each Year, and each allowed upon the Exportation thereof, and the net Produce of Great Britain in each Year.

and Bounties allowed.			Payments to Excise on account of Sugar Wash used in the Distilleries, under Act 48 G.3, c. 152.	Repayments on Over Entries, Damage, &c.	Net Produce of Duties on Sugar in Great Britain.	YEARS ending 5 January
exported.						
TOTAL on Raw Sugar.	Bounties on British Refined Sugar exported.	TOTAL Amount of Drawbacks and Bounties.				
£.	£.	£.	£.	£.	£.	
138,560	1,143,451	1,282,011	- - -		3,029,484	1808
59,310	934,220	993,530	- - -	The amount of these allowances is uncertain for the first seven years, and they are therefore included in the net produce.	4,074,531	1809
219,009	996,838	1,215,847	294,328		3,273,995	1810
123,334	1,124,251	1,247,585	479,758		3,117,330	1811
119,991	392,149	512,140	734,660		3,339,218	1812
260,761	693,650	954,411	211,335		3,939,939	1813
120,785	1,162,794	1,283,579	467,957		3,481,350	1814
139,661	1,133,938	1,273,599	61,399	3,792	3,276,513	1815
87,246	1,465,298	1,552,544	- - -	8,381	2,957,403	1816
47,342	1,492,800	1,540,142	- - -	7,713	3,166,851	1817
43,788	1,641,736	1,685,524	- - -	9,786	3,967,154	1818
42,713	1,683,158	1,725,871	- - -	4,193	2,331,472	1819
21,362	1,265,778	1,287,140	- - -	7,253	3,507,844	1820
11,467	1,608,480	1,619,947	- - -	4,061	3,477,770	1821
6,031	1,493,089	1,499,120	- - -	2,862	3,660,568	1822

Weekly Prices of Sugar in London Gazette.

EXTRACTS FROM THE LONDON GAZETTES,

Of the Weekly Average Prices of Brown or Muscovado SUGAR, being exclusive of the Duties payable thereon, from the first Saturday in January 1812 to the last Saturday in November 1822.

1812.	Average Price per Cwt. s.	d.
4th Jan.	No return	
11th d°	43	5
18th d°	44	10¾
25th d°	45	6¼
1st Feb.	44	10¼
8th d°	44	3¾
15th d°	44	5
22d d°	43	8
29th d°	43	5½
7th March	42	7¾
14th d°	42	10½
21st d°	42	8
28th d°	42	1½
4th April	41	3¾
11th d°	42	3¼
18th d°	42	1
25th d°	42	4¼
2d May	41	7¾
9th d°	42	6¼
16th d°	42	10
23d d°	43	9¾
30th d°	44	0¼
6th June	44	1¼
13th d°	45	—
20th d°	44	2¼
27th d°	42	11½
4th July	41	5½
11th d°	43	9
18th d°	43	—¼
25th d°	44	2¾
1st Aug.	44	8½
8th d°	44	6
15th d°	45	4
22d d°	47	1¾
29th d°	46	10¼
5th Sept.	47	6¾
12th d°	47	6¼
19th d°	46	8¾
26th d°	46	9¼
3d Oct.	46	5½
10th d°	46	5¼
17th d°	45	3
24th d°	45	5¾
31st d°	45	—
7th Nov.	45	2¾
14th d°	46	6
21st d°	47	—½
28th d°	47	6
5th Dec.	48	7½
12th d°	48	5½
19th d°	49	8¾
26th d°	51	2½

1813.	Average Price per Cwt. s.	d.
2d Jan	52	11½
9th d°	55	6
16th d°	55	1
23d d°	56	0¼
30th d°	58	7¼
6th Feb.	58	2½
13th d°	56	10¼
20th d°	57	4¾
27th d°	57	1½
6th March	57	5½
13th d°	58	8½
20th d°	58	4¾
27th d°	58	9¼
3d April	59	1¼
10th d°	58	11½
17th d°	58	1
24th d°	57	7
1st May	57	1½
8th d°	57	10
15th d°	59	6¼
22d d°	65	3½
29th d°	58	10¼
5th June	62	1¾
12th d°	59	2
19th d°	60	10½
26th d°	61	0
3d July	57	10½
10th d°	63	8¾
17th d°	61	0¼
24th d°	55	7
31st d°	52	6¼
7th Aug.	52	9¾
14th d°	53	9¼
21st d°	53	9¾
28th d°	54	2½
4th Sept.	53	5½
11th d°	54	7½
18th d°	57	5½
25th d°	59	11¼
2d Oct.	60	2½
9th d°	59	7¼
16th d°	58	11¼
23d d°	59	5¾
30th d°	58	9
6th Nov.	58	7¾
13th d°	61	4
20th d°	63	1
27th d°	62	9½
4th Dec.	71	1¼
11th d°	72	10½
18th d°	75	4½
25th d°	76	11

1814.	Average Price per Cwt. s.	d.
1st Jan.	77	3½
8th d°	75	5½
15th d°	76	9¾
22d d°	77	10¾
29th d°	81	6
5th Feb.	89	2¾
12th d°	96	5¼
19th d°	94	9
26th d°	97	2½
5th March	95	10¼
12th d°	90	3¾
19th d°	93	1
26th d°	90	7
2d April	91	4¾
9th d°	90	3
16th d°	84	10
23d d°	89	9¾
30th d°	90	3¼
7th May	89	1½
14th d°	83	9
21st d°	71	5½
28th d°	63	4½
4th June	66	5
11th d°	66	0½
18th d°	63	1¼
25th d°	65	5¼
2d July	59	5½
9th d°	56	1½
16th d°	54	1¾
23d d°	53	1¼
30th d°	54	3½
6th Aug.	58	6¾
13th d°	59	8½
20th d°	61	4
27th d°	64	8½
3d Sept.	71	9½
10th d°	70	3¼
17th d°	72	6¾
24th d°	73	3½
1st Oct.	74	2½
8th d°	73	1½
15th d°	72	0¼
22d d°	72	8¾
29th d°	70	4¾
5th Nov.	68	4½
12th d°	72	—½
19th d°	74	11¼
26th d°	77	1¾
3d Dec.	77	1½
10th d°	78	8¾
17th d°	79	9½
24th d°	77	5
31st d°	78	9½

Weekly Prices of Sugar in London Gazette.

EXTRACTS from The London Gazettes, of the Weekly Average Prices of Brown or Muscovado Sugar, &c.—*continued.*

1815:	Average Price per Cwt. s.	d.
7th Jan.	No return	
14th d°	78	5 3/4
21st d°	75	5 1/4
28th d°	75	1 1/2
4th Feb.	74	6 1/2
11th d°	74	4 1/2
18th d°	71	9 1/4
25th d°	70	—
4th March	58	6 1/4
11th d°	55	10 1/4
18th d°	56	2 1/2
25th d°	58	8 3/4
1st April	57	3 1/4
8th d°	60	10 3/4
15th d°	62	7
22d d°	60	9 1/2
29th d°	60	3 3/4
6th May	59	7 1/4
13th d°	61	3 1/2
20th d°	61	3
27th d°	61	5 3/4
3d June	60	3 1/2
10th d°	60	4
17th d°	59	—
24th d°	62	7 1/2
1st July	63	1
8th d°	63	11 1/4
15th d°	62	1 3/4
22d d°	61	3 1/2
29th d°	62	6 1/4
5th Aug.	63	2 3/4
12th d°	63	6 1/2
19th d°	63	8
26th d°	63	4 3/4
2d Sept.	62	5 1/4
9th d°	62	9 1/2
16th d°	64	1
23d d°	64	8
30th d°	64	2 3/4
7th Oct.	64	4 1/2
14th d°	63	— 1/2
21st d°	62	— 1/4
28th d°	60	8
4th Nov.	57	3
11th d°	57	— 3/4
18th d°	59	4 1/4
25th d°	59	1 1/2
2d Dec.	59	9 3/4
9th d°	58	5 1/2
16th d°	58	5 1/2
23d d°	56	6
30th d°	57	7 1/4

1816:	Average Price per Cwt. s.	d.
6th Jan.	No return	
13th d°	59	6 1/4
20th d°	57	6
27th d°	56	8 3/4
3d Feb.	55	3 1/4
10th d°	54	2
17th d°	52	5 3/4
24th d°	50	2 1/4
2d March	51	11 1/4
9th d°	52	7
16th d°	52	7 1/2
23d d°	50	10
30th d°	51	11 1/4
6th April	50	3 3/4
13th d°	45	9 1/2
20th d°	48	5
27th d°	48	9
4th May	52	8 3/4
11th d°	48	9
18th d°	48	3 1/4
25th d°	49	9 1/2
1st June	53	1
8th d°	52	9 3/4
15th d°	50	3 1/4
22d d°	49	7 1/2
29th d°	47	8
6th July	47	3 3/4
13th d°	47	7 3/4
20th d°	44	4
27th d°	43	3 1/4
3d Aug.	42	11 1/4
10th d°	43	11
17th d°	45	4 1/2
24th d°	44	9 3/4
31st d°	44	— 1/2
7th Sept.	44	10 1/2
14th d°	49	5 1/4
21st d°	47	4
28th d°	46	9 3/4
5th Oct.	45	— 1/2
12th d°	44	1 3/4
19th d°	44	5 1/4
26th d°	45	7 1/2
2d Nov.	45	10 3/4
9th d°	46	— 1/4
16th d°	46	3 1/4
23d d°	46	— 1/4
30th d°	46	10 3/4
7th Dec.	50	9
14th d°	49	— 1/2
21st d°	49	10 1/4
28th d°	50	— 1/2

1817:	Averege Price per Cwt. s.	d.
4th Jan.	No return	
11th d°	50	10 1/2
18th d°	49	4 1/4
25th d°	50	2 3/4
1st Feb.	48	5 3/4
8th d°	48	10
15th d°	46	1 3/4
22d d°	47	1 1/2
1st March	45	7 3/4
8th d°	44	—
15th d°	44	7
22d d°	44	9 1/2
29th d°	46	1 1/2
5th April	45	1 1/2
12th d°	44	8 3/4
19th d°	46	11
26th d°	44	9 1/4
3d May	42	7 3/4
10th d°	43	8 3/4
17th d°	42	11 3/4
24th d°	43	11 3/4
31st d°	48	5 1/2
7th June	48	4 3/4
14th d°	47	9 1/2
21st d°	47	1
28th d°	47	9
5th July	47	2
12th d°	46	6 1/2
19th d°	47	1
26th d°	48	10 1/2
2d Aug.	47	11 3/4
9th d°	49	8 1/4
16th d°	52	8 3/4
23d d°	52	10
30th d°	52	9
6th Sept.	53	— 1/4
13th d°	53	9
20th d°	56	7
27th d°	60	6 3/4
4th Oct.	60	6 3/4
11th d°	58	8 3/4
18th d°	57	6
25th d°	55	7
1st Nov.	55	— 1/2
8th d°	54	— 1/4
15th d°	53	1
22d d°	51	2 3/4
29th d°	51	4 3/4
6th Dec.	51	2
13th d°	50	2 3/4
20th d°	49	11 1/2
27th d°	50	9 3/4

Weekly Prices of Sugar in London Gazette.

EXTRACTS from The London Gazettes, of the Weekly Average Prices of Brown or Muscovado Sugar, &c.—*continued.*

1818:	Average Price per Cwt. s.	d.	1819:	Average Price per Cwt. s.	d.	1820:	Average Price per Cwt. s.	d.
3d Jan.	50	1	2d Jan.	50	−½	1st Jan.	34	−
10th d°	48	−¾	9th d°	49	2	8th d°	34	3¾
17th d°	49	11¾	16th d°	50	2	15th d°	35	8
24th d°	49	5¼	23d d°	50	9½	22d d°	34	7½
31st d°	48	10	30th d°	50	2	29th d°	35	6¼
7th Feb.	48	1¼	6th Feb.	49	4¾	5th Feb.	36	1½
14th d°	48	0½	13th d°	49	2½	12th d°	36	3¾
21st d°	49	1½	20th d°	49	7½	19th d°	36	8¼
28th d°	49	3¼	27th d°	48	−½	26th d°	35	9
7th March	49	10¾	6th March	48	6	4th March	34	7¼
14th d°	49	7	13th d°	48	1¾	11th d°	35	5
21st d°	52	9½	20th d°	47	8½	18th d°	33	11½
28th d°	52	3¼	27th d°	48	4¾	25th d°	35	6¾
4th April	52	7¾	3d April	45	7¾	1st April	36	8¾
11th d°	51	4	10th d°	46	11¾	8th d°	38	8½
18th d°	50	10½	17th d°	44	11	15th d°	36	8¾
25th d°	49	4¾	24th d°	44	9¾	22d d°	37	3¼
						29th d°	37	7¾
2d May	49	3	1st May	41	8½			
9th d°	50	8½	8th d°	41	1¾	6th May	38	3
16th d°	52	8¼	15th d°	39	−	13th d°	38	9½
23d d°	50	3¼	22d d°	38	10¼	20th d°	37	11
30th d°	51	−½	29th d°	41	10¾	27th d°	38	−½
6th June	50	3½	5th June	42	1½	3d June	39	1½
13th d°	50	1¼	12th d°	39	2¼	10th d°	38	7
20th d°	49	1¼	19th d°	37	5½	17th d°	37	7½
27th d°	49	8½	26th d°	39	3¾	24th d°	37	6½
4th July	48	11¼	3d July	43	3¼	1st July	38	1½
11th d°	49	−¼	10th d°	42	5¾	8th d°	37	4½
18th d°	49	11¼	17th d°	41	4¾	15th d°	37	−
25th d°	51	11¾	24th d°	40	5	22d d°	37	11
			31st d°	41	7¾	29th d°	37	6½
1st Aug.	52	8						
8th d°	52	9¼	7th Aug.	39	−	5th Aug.	37	7¼
15th d°	50	11½	14th d°	40	1¾	12th d°	36	5
22d d°	51	2¼	21st d°	39	1¾	19th d°	36	2½
29th d°	51	3¼	28th d°	40	5¾	26th d°	35	8¼
5th Sept.	51	10¾	4th Sept.	39	6	2d Sept.	35	11
12th d°	50	11¾	11th d°	39	9¼	9th d°	35	5½
19th d°	50	9½	18th d°	38	4	16th d°	35	11
26th d°	50	10¼	25th d°	35	11	23d d°	35	5¾
						30th d°	36	3½
3d Oct.	50	6¾	2d Oct.	36	6			
10th d°	49	10¼	9th d°	36	5¾	7th Oct.	36	1¾
17th d°	49	1¾	16th d°	36	11½	14th d°	36	3
24th d°	48	2	23d d°	36	−¾	21st d°	35	7
31st d°	47	9½	30th d°	35	9½	28th d°	35	−¼
7th Nov.	48	11¼	6th Nov.	35	2¼	4th Nov.	35	3
14th d°	49	3½	13th d°	34	8¾	11th d°	35	5¾
21st d°	47	11½	20th d°	35	9¼	18th d°	35	8¼
28th d°	47	9½	27th d°	37	1¼	25th d°	34	7
5th Dec.	49	11	4th Dec.	36	1½	2d Dec.	35	2
12th d°	49	4½	11th d°	35	5½	9th d°	34	5½
19th d°	51	−¾	18th d°	36	4¼	16th d°	34	10
26th d°	50	9¼	25th d°	35	3¾	23d d°	34	8¾
						30th d°	34	11½

Weekly Prices of Sugar in London Gazette.

EXTRACTS from The London Gazettes, of the Weekly Average Prices of Brown or Muscovado Sugar, &c.—*continued.*

1821:	Average Price per Cwt. s.	d.
6th Jan.	No return	
13th d°	35	2 1/2
20th d°	35	4 1/2
27th d°	35	8 3/4
3d Feb.	36	4 1/4
10th d°	35	4 3/4
17th d°	35	8 1/4
24th d°	36	2
3d March	35	6 1/4
10th d°	35	9 1/4
17th d°	36	2 3/4
24th d°	35	−1/4
31st d°	35	1 1/4
7th April	34	6 3/4
14th d°	34	5 1/2
21st d°	35	1
28th d°	36	4 1/4
5th May	34	9 3/4
12th d°	34	2 1/2
19th d°	35	2 1/4
26th d°	33	9 1/4
2d June	35	3
9th d°	36	1
16th d°	35	2 1/2
23d d°	35	8 1/4
30th d°	34	8 3/4
7th July	33	3 3/4
14th d°	32	8 1/2
21st d°	32	8
28th d°	32	2 1/4
4th Aug.	32	9 1/4
11th d°	32	9
18th d°	32	10 3/4
25th d°	32	2 1/2
1st Sept.	31	9 3/4
8th d°	32	7 1/4
15th d°	31	5 1/2
22d d°	31	3 3/4
29th d°	30	7
6th Oct.	31	2 1/2
13th d°	30	5 1/2
20th d°	30	9 1/2
27th d°	30	5 1/4
3d Nov.	28	9 1/2
10th d°	29	4 3/4
17th d°	29	1 1/4
24th d°	29	9
1st Dec.	30	8
8th d°	31	0
15th d°	32	7 1/2
22d d°	33	−3/4
29th d°	31	−

1822:	Average Price per Cwt.
5th Jan.	No return
12th d°	31 10 1/4
19th d°	31 10 1/4
26th d°	31 7 3/4
2d Feb.	33 2 1/4
9th d°	32 4 1/4
16th d°	32 2 1/4
23d d°	31 8 1/4
2d March	32 4 1/2
9th d°	33 1 3/4
16th d°	33 6
23d d°	34 −3/4
30th d°	34 −
6th April	34 10
13th d°	34 7 3/4
20th d°	34 3 1/2
27th d°	33 6
4th May	32 10 3/4
11th d°	34 8
18th d°	32 10 3/4
25th d°	32 8 1/2
1st June	32 6 1/4
8th d°	33 8 1/4
15th d°	32 5 1/4
22d d°	30 1 1/2
29th d°	29 −1/4
6th July	28 5
13th d°	30 8
20th d°	31 1
27th d°	30 4 3/4
3d Aug.	31 −1/2
10th d°	28 10 1/4
17th d°	28 1 1/4
24th d°	27 6 3/4
31st d°	27 7 1/4
7th Sept.	29 3 3/4
14th d°	29 −3/4
21st d°	29 1
28th d°	29 1 1/2
5th Oct.	29 10 1/4
12th d°	29 11 1/4
19th d°	32 3 3/4
26th d°	32 4 1/4
2d Nov.	31 −3/4
9th d°	30 4 3/4
16th d°	30 8
23d d°	29 −3/4
30th d°	28 5 1/2

Prices of Sugar in London, and Rate of Duty.

AN ACCOUNT of the Average Prices of Sugar in Great Britain, at the several Periods at which the Rates of Duty may have been regulated, from the 5th January 1807 to the 5th September 1822, with the Rate of Duty payable at each of the said Periods respectively.

Periods of Four Months, as regulated by Act 46th Geo. 3, c. 42, sec. 10.	Average Prices, as published in the London Gazette.	Rate of Duty payable.
	s. d.	*s. d.*
In the Four Months ending		
5th Jan. 1807	40 7¼	Per Cwt.
5th May —	35 2	
5th Sept. —	34 1¼	
5th Jan. 1808	32 7¼	
5th May —	33 10	
5th Sept. —	38 10	27 —
5th Jan. 1809	42 10	
5th May —	45 9½	
5th Sept. —	38 6¾	
5th Jan. 1810	46 4¾	
5th May —	48 10¼	
5th Sept. —	47 8¾	29 —
5th Jan. 1811	43 11¾	28
5th May —	40 9	
5th Sept. —	32 11¼	
5th Jan. 1812	35 7¾	
5th May —	40 3¾	27 —
5th Sept. —	41 4¼	
5th Jan. 1813	44 6½	
5th May —	57 7½	
5th Sept. —	54 —	
5th Jan. 1814	62 9¾	
5th May —	85 5½	
5th Sept. —	61 —	
5th Jan. 1815	73 7½	
5th May —	62 6½	30 —
5th Sept. —	62 4	
5th Jan. 1816	60 11¾	
5th May —	52 7¼	
5th Sept. —	46 5½	
5th Jan. 1817	43 7¼	
5th May —	43 7½	27 —
5th Sept. —	45 10¾	
5th Jan. 1818	53 6	
5th May —	49 5¾	
5th Sept. —	50 10¼	30 —
5th Jan. 1819	49 6¼	
5th May —	47 7¼	
5th Sept. —	40 5	28 —
5th Jan. 1820	36 — ½	
5th May —	32 10¾	
5th Sept. —	34 3¼	
5th Jan. 1821	32 5½	
5th May —	32 5¼	
5th Sept. —	30 7	27 —
5th Jan. 1822	37 7½	
5th May —	29 9¼	
5th Sept. —	27 1¼	

Note.—The Lords of His Majesty's Treasury are authorized by the Act 46 Geo. 3, c. 42, to suspend the following portions of the Duties on Sugar, at the prices as published in the Gazettes for the four months preceding the 5th January, 5th May, and 5th September, in each year, as follows:

s.		*s.*
If below 49/ per cwt.	a duty	1/ per cwt. suspended.
If below 48/ per cwt.		2/ per cwt. "
If below 47/ per cwt.		3/ per cwt. "

ACCOUNT of the QUANTITY and SALE AMOUNT of EAST INDIA SUGAR Sold at the Company's Sales, from the first Importation thereof, to the present time; distinguishing Company's from Private Trade.

SOLD in March and September Sales;	COMPANY'S.		PRIVATE TRADE, Privilege Prize, Neutral Property, &c.		TOTAL.	
	Cwts.	£.	*Cwts.*	£.	*Cwts.*	£.
1791 - -	4,017	22,221	30	124	4,047	22,345
1792 - -	3,310	17,496	529	2,557	3,839	20,053
1793 - -	36,391	109,403	6,814	17,958	43,205	127,361
1794 - -	57,583	154,035	5,642	16,163	63,225	170,198
1795 - -	155,996	435,259	5,923	17,100	161,829	452,359
1796 - -	84,606	249,775	22,548	73,640	107,154	323,415
1797 - -	70,891	203,439	34,325	95,866	105,216	299,305
1798 - -	139,100	457,545	64,531	214,977	203,631	672,522
1799 - -	46,682	123,869	56,085	129,413	102,767	253,282
1800 - -	111,070	246,569	109,766	299,368	220,836	545,937
1801 - -	55,797	147,191	19,111	49,943	74,908	197,134
1802 - -	55,786	102,151	27,704	56,166	83,490	158,317
1803 - -	27,510	56,879	21,769	45,594	49,279	102,473
1804 - -	78,620	208,959	25,477	65,455	104,097	273,514
1805 - -	102,735	294,704	29	53	102,764	294,757
1806 - -	65,806	144,506	156	291	65,962	144,797
1807 - -	105,503	202,487	7,980	9,171	113,483	211,658
1808 - -	48,447	87,892	5,936	8,836	54,383	96,728
1809 - -	31,618	68,749	119	241	31,737	68,990
1810 - -	40,534	94,988	8,088	18,422	48,622	113,410
1811 - -	1,824	3,513	12,059	25,037	13,883	28,550
1812 - -	67,610	155,721	9,646	21,712	77,256	177,433
1813 - -	47,559	148,620	22,632	67,980	70,191	216,600
1814 - -	42,548	169,505	13,394	47,103	55,942	216,608
1815 - -	3,312	8,510	121,032	375,100	124,344	383,610
1816 - -	18,951	41,009	90,770	206,099	109,721	247,108
1817 - -	2,774	6,578	73,050	174,179	75,824	180,757
1818 - -	19,086	44,060	98,249	219,011	117,335	263,071
1819 - -	20,754	40,267	114,649	197,089	135,403	237,356
1820 - -	18,318	33,366	154,553	230,164	172,871	263,530
1821 - -	39,731	57,375	141,653	186,351	181,384	243,726
	1,604,379	4,135,741	1,274,249	2,871,163	2,878,628	7,006,904

East India House,
3d December 1822.

Thos G. Lloyd,
Acct Genl.

N° 1.—AN ACCOUNT of the Quantity of SUGAR Imported into Great Britain, from the several British Colonies and Plantations, from the British Possessions in The East Indies, and from Foreign Countries, from 5th January 1814 to 5th January 1822; distinguishing the several sorts of Sugar, and distinguishing each Year, and the Colonies and Countries from which the same was Imported.

YEAR ENDING 5th JANUARY 1815.

	COUNTRIES From which Imported.	BRITISH PLANTATION.			FOREIGN PLANTATION.			EAST INDIA.			TOTAL Of all Sorts IMPORTED.		
		Cwt.	qrs.	lbs.	Cwt.	qrs.	lbs.	Cwt.	qrs.	lbs.	Cwt.	qrs.	lbs.
BRITISH COLONIES AND PLANTATIONS.	Antigua	157,022	3	19	6,390	–	13	-	-	-	163,413	–	4
	Barbadoes	214,492	1	25	733	1	9	-	-	-	215,225	3	6
	Dominica	34,273	3	–	5,014	2	17	-	-	-	39,288	1	17
	Grenada	208,230	2	9	629	2	23	-	-	-	208,860	1	4
	Jamaica	1,448,331	1	6	62	2	27	-	-	-	1,448,394	–	5
	Montserrat	35,067	1	24	5,812	1	1	-	-	-	40,879	2	25
	Nevis	54,012	–	19	-	-	-	-	-	-	54,012	–	19
	St. Kitts	122,067	–	17	1,661	3	11	-	-	-	123,729	–	–
	St. Lucia	79,664	–	21	248	3	23	-	-	-	79,913	–	16
	St. Vincents	225,405	2	18	123	3	6	-	-	-	225,529	1	24
	Tobago	120,571	2	8	13	–	12	-	-	-	120,584	2	20
	Tortola	14,909	2	–	-	-	-	-	-	-	14,909	2	–
	Trinidad	142,434	2	11	235	1	24	-	-	-	142,670	–	7
	Bahamas	-	-	-	1,559	3	4	-	-	-	1,559	3	4
	Bermudas	2,600	2	4	7,659	–	–	-	-	-	10,259	2	4
	Demerara	234,393	2	10	5	2	12	-	-	-	234,399	–	22
	Berbice	9,914	3	22	-	-	-	-	-	-	9,914	3	22
	Honduras	—			—			—			—		
	Brh N° American Colonies	4,279	–	6	-	-	-	-	-	-	4,279	–	6
EAST INDIES.	East Indies	-	-	-	-	-	-	43,789	2	12	43,789	2	12
	Cape Good Hope	—			—			—			—		
	New Holland	—			—			—			—		
FOREIGN POSSESSIONS IN AMERICA, including restored Colonies.	St. Croix	151,044	2	16	584	2	24	-	-	-	151,629	1	12
	St. Thomas	36,311	1	24	2,250	3	5	-	-	-	38,562	1	1
	St. Bartholomew	—			—			—			—		
	St. Martin	4,575	–	2	-	-	-	-	-	-	4,575	–	2
	Curaçoa	-	-	-	1	–	–	-	-	-	1	–	–
	Guadaloupe	-	-	-	148,989	–	19	-	-	-	148,989	–	19
	Martinique	9	1	18	192,332	1	–	-	-	-	192,341	2	18
	St. Domingo	-	-	-	2,113	2	6	-	-	-	2,113	2	6
	Cuba	-	-	-	110,120	1	14	-	-	-	110,120	1	14
	Porto Rico	-	-	-	2,876	–	15	-	-	-	2,876	–	15
	Surinam	98,873	1	1	-	-	-	-	-	-	98,873	1	1
	Cayenne	—			—			—			—		
	Brazils	-	-	-	73,746	3	13	-	-	-	73,746	3	13
	Spanish Contl Colonies	-	-	-	184	3	11	-	-	-	184	3	11
	United States of America	—			—			—			—		
	Foreign Europe	-	-	-	8,516	–	11	-	-	-	8,516	–	11
	Prize Sugar	-	-	-	9,554	2	14	6,059	3	16	15,614	2	2
	Ireland	5,307	1	9	260	2	10	-	-	-	5,567	3	19
	TOTAL from all Parts	3,403,792	2	9	581,681	1	16	49,849	2	–	4,035,323	1	25

N° 1.—Quantity of Sugar Imported into Great Britain—*continued.*

YEAR ENDING 5th JANUARY 1816.

	COUNTRIES From which Imported.	BRITISH PLANTATION.			FOREIGN PLANTATION.			EAST INDIA.			TOTAL Of all Sorts IMPORTED.		
		Cwt.	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs*	*lbs.*
BRITISH COLONIES AND PLANTATIONS.	Antigua	160,654	3	19	633	2	17	-	-	-	161,288	2	8
	Barbadoes	196,745	3	11	-	-	-	-	-	-	196,745	3	11
	Dominica	44,115	2	17	2	–	10	-	-	-	44,117	2	27
	Grenada	231,883	2	16	-	-	-	-	-	-	231,883	2	16
	Jamaica	1,593,217	1	12	2,065	–	20	-	-	-	1,595,282	2	4
	Montserratt	24,510	–	23	3,283	2	3	-	-	-	27,793	2	26
	Nevis	55,223	3	20	-	-	-	-	-	-	55,223	3	20
	St. Kitts	141,337	2	20	116	–	1	-	-	-	141,453	2	21
	St. Lucia	72,320	2	22	6,885	2	24	-	-	-	79,206	1	18
	St. Vincent's	231,815	–	20	13	2	15	-	-	-	231,828	3	7
	Tobago	120,891	2	2	-	-	-	-	-	-	120,891	2	2
	Tortola	24,012	2	15	1,836	3	19	-	-	-	25,849	2	6
	Trinidad	153,651	1	20	-	-	-	-	-	-	153,651	1	20
	Bahamas	-	-	-	2,396	–	27	-	-	-	2,396	–	27
	Demerara	322,099	3	27	-	-	-	-	-	-	322,099	3	27
	Berbice	8,318	1	6	2	1	13	-	-	-	8,320	2	19
	Honduras	–	2	8	-	-	-	-	-	-	–	2	8
	Bermudas	—			—			—			—		
	Br^h N° American Colonies	7	2	16	688	–	5	-	-	-	695	2	21
EAST INDIES.	East Indies	-	-	-	-	-	-	124,318	2	8	124,318	2	8
	Cape Good Hope	-	-	-	-	-	-	1,320	3	17	1,320	3	17
	New Holland	—			—			—			—		
FOREIGN POSSESSIONS IN AMERICA. including restored Colonies.	St. Croix	25,532	2	20	-	-	-	-	-	-	25,532	2	20
	St. Thomas	6,700	–	11	7,761	1	–	-	-	-	14,461	1	11
	St. Bartholomew	—			—			—			—		
	St. Martin	1,555	1	24	322	1	22	-	-	-	1,877	3	18
	Curaçoa	—			—			—			—		
	Guadaloupe	-	-	-	40,514	1	27	-	-	-	40,514	1	27
	Martinique	-	-	-	22,637	1	26	-	-	-	22,637	1	26
	St. Domingo	-	-	-	31,756	1	4	-	-	-	31,756	1	4
	Cuba	-	-	-	181,577	–	12	-	-	-	181,577	–	12
	Porto Rico	—			—			—			—		
	Surinam	78,473	–	22	-	-	-	-	-	-	78,473	–	22
	Cayenne	—			—			—			—		
	Brazils	-	-	-	62,837	1	19	-	-	-	62,837	1	19
	Spanish Cont^l Colonies	-	-	-	2	1	7	-	-	-	2	1	7
	United States of America	-	-	-	2	1	5	-	-	-	2	1	5
	Foreign Europe	–	–	3	178	1	16	-	-	-	178	1	19
	Prize Sugar	-	-	-	376	1	1	-	-	-	376	1	1
	Ireland	47	–	25	137	2	16	-	-	-	184	3	13
	TOTAL from all Parts	3,493,115	3	15	366,026	3	1	125,639	1	25	3,984,782	–	13

N° 1.—Quantity of Sugar Imported into Great Britain—*continued.*

YEAR ENDING 5th JANUARY 1817.

	COUNTRIES From which Imported.	BRITISH PLANTATION.			FOREIGN PLANTATION.			EAST INDIA.			TOTAL Of all Sorts IMPORTED.		
		Cwt.	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*
BRITISH COLONIES AND PLANTATIONS.	Antigua	197,300	1	12	15	3	8	-	-	-	197,316	–	20
	Barbadoes	288,623	2	–	114	3	18	-	-	-	288,738	1	18
	Dominiça	47,035	1	1	-	-	-	-	-	-	47,035	1	1
	Grenada	266,055	2	23	2	1	21	-	-	-	266,058	–	16
	Jamaica	1,389,411	3	27	38	1	17	-	-	-	1,389,450	1	16
	Montserrat	28,981	–	5	-	-	-	-	-	-	28,981	–	5
	Nevis	71,655	3	12	-	-	-	-	-	-	71,655	3	12
	St. Kitts	124,757	3	25	-	-	-	-	-	-	124,757	3	25
	St. Lucia	69,830	3	5	6	1	6	-	-	-	69,837	–	11
	St. Vincent's	263,433	–	15	1	3	25	-	-	-	263,435	–	12
	Tobago	139,157	3	12	-	-	-	-	-	-	139,157	3	12
	Tortola	51,092	2	5	1,088	2	5	-	-	-	52,181	–	10
	Trinadad	132,893	1	11	347	1	14	-	-	-	133,240	2	25
	Bahamas	-	-	-	1,915	1	24	-	-	-	1,915	1	24
	Bermudas	-	-	-	1,152	2	5	-	-	-	1,152	2	5
	Demerara	323,443	2	10	8	–	20	-	-	-	323,451	3	2
	Berbice	15,308	1	1	-	-	-	-	-	-	15,308	1	1
	Honduras	—			—			—			—		
	Brh Nc American Colonies	2	3	–	1	2	10	-	-	-	4	1	10
EAST INDIES.	East Indies	-	-	-	-	-	-	126,266	1	19	126,266	1	19
	Cape Good Hope	-	-	-	2	2	–	-	-	-	2	2	–
	New Holland	—			—			—			—		
FOREIGN POSSESSIONS IN AMERICA, including restored Colonies.	St. Croix	—			—			—			—		
	St. Thomas	1	–	4	-	-	-	-	-	-	1	–	4
	St. Bartholomew	—			—			—			—		
	St. Martin	—			—			—			—		
	Curaçoa	—			—			—			—		
	Guadaloupe	-	-	-	82,985	2	2	-	-	-	82,985	2	2
	Martinique	-	-	-	3,989	2	4	-	-	-	3,989	2	4
	St. Domingo	-	-	-	10,928	–	18	-	-	-	10,928	–	18
	Cuba	-	-	-	30,559	1	24	-	-	-	30,559	1	24
	Porto Rico	—			—			—			—		
	Surinam	25,004	3	8	2,964	–	5	-	-	-	27,968	3	13
	Cayenne	—			—			—			—		
	Brazils	-	-	-	56,305	1	3	-	-	-	56,305	1	3
	Spanish Contl Colonies	-	-	-	1	1	18	-	-	-	1	1	18
	United States of America	4,923	2	20	-	-	-	-	-	-	4,923	2	20
	Foreign Europe	1,022	2	5	2	1	14	785	1	24	1,810	1	25
	Prize Sugar	-	-	-	348	3	5	-	-	-	348	3	5
	Ireland	629	–	22	-	-	-	150	3	2	779	3	24
	TOTAL from all Parts	3,440,565	–	27	192,780	2	24	127,202	2	17	3,760,548	2	12

N° 1.—Quantity of Sugar Imported into Great Britain—*continued.*

YEAR ENDING 5th JANUARY 1818.

	COUNTRIES From which Imported.	BRITISH PLANTATION.			FOREIGN PLANTATION.			EAST INDIA.			TOTAL of all Sorts IMPORTED.		
		Cwt.	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*
BRITISH COLONIES AND PLANTATIONS.	Antigua	179,370	3	17	1	2	11	-	-	-	179,372	2	-
	Barbadoes	239,722	3	12	1,032	1	20	-	-	-	240,755	1	4
	Dominica	31,678	2	1	15	1	-	-	-	-	31,693	3	1
	Grenada	196,959	1	14	-	-	-	-	-	-	196,959	1	14
	Jamaica	1,717,259	3	19	4	3	7	-	-	-	1,717,264	2	26
	Montserrat	31,214	-	16	-	-	-	-	-	-	31,214	-	16
	Nevis	45,852	1	16	-	-	-	-	-	-	45,852	1	16
	St. Kitts	125,977	3	26	7,286	-	6	-	-	-	133,264	-	4
	St. Lucia	56,401	-	10	8	-	7	-	-	-	56,409	-	17
	St. Vincent's	242,413	-	10	1	-	6	-	-	-	242,414	-	16
	Tobago	132,387	3	4	-	-	-	-	-	-	132,387	3	4
	Tortola	42,934	2	6	7	2	24	-	-	-	42,942	1	2
	Trinidad	128,433	3	5	-	-	-	-	-	-	128,433	3	5
	Bahamas	-	-	-	4,285	2	22	-	-	-	4,285	2	22
	Bermudas	—			—			—			—		
	Demerara	377,796	-	18	-	3	3	-	-	-	377,796	3	21
	Berbice	14,158	3	26	-	-	-	-	-	-	14,158	3	26
	Honduras	—			—			—			—		
	Br^h N° American Colonies	450	3	20	2	-	11	-	-	-	453	-	3
EAST INDIES.	East Indies	-	-	-	-	-	-	123,372	3	16	123,372	3	16
	Cape Good Hope	-	-	-	-	3	13	347	1	9	348	-	22
	New Holland	—			—			—			—		
FOREIGN POSSESSIONS IN AMERICA, including restored Colonies.	St. Croix	—			—			—			—		
	St. Thomas	-	-	-	639	1	-	-	-	-	639	1	-
	St. Bartholomew	—			—			—			—		
	St. Martin	—			—			—			—		
	Curaçoa	—			—			—			—		
	Guadaloupe	-	-	-	822	-	11	-	-	-	822	-	11
	Martinique	-	-	-	4	1	27	-	-	-	4	1	27
	St. Domingo	-	-	-	4,675	1	13	-	-	-	4,675	1	13
	Cuba	-	-	-	35,594	-	18	-	-	-	35,594	-	18
	Porto Rico	—			—			—			—		
	Surinam	4	1	12	-	-	-	-	-	-	4	1	12
	Cayenne	—			—			—			—		
	Brazils	-	-	-	50,821	2	27	-	-	-	50,821	2	27
	Spanish Con^l Colonies	—			—			—			—		
	United States of America	—			—			—			—		
	Foreign Europe	536	2	18	713	-	6	2,172	2	6	3,422	1	2
	Prize Sugar	—			—			—			—		
	Ireland	187	2	24	-	-	-	-	-	-	187	2	24
	TOTAL from all Parts	3,563,741	-	22	105,916	2	8	125,892	3	3	3,795,550	2	5

N° 1.—Quantity of Sugar Imported into Great Britain—*continued.*

YEAR ENDING 5th JANUARY 1819.

	COUNTRIES *From which Imported.*	BRITISH PLANTATION.			FOREIGN PLANTATION.			EAST INDIA.			TOTAL Of all Sorts IMPORTED.		
		Cwt.	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*
BRITISH COLONIES AND PLANTATIONS.	Antigua	228,308	1	27	2	–	17	-	-	-	228,310	2	16
	Barbadoes	249,076	3	10	60	2	1	-	-	-	249,137	1	11
	Dominica	33,820	2	26	-	-	-	-	-	-	33,820	2	26
	Grenada	220,958	3	19	1	1	23	-	-	-	220,960	1	14
	Jamaica	1,653,303	3	21	14	1	23	-	-	-	1,653,318	1	16
	Montserrat	36,919	3	25	-	-	-	-	-	-	36,919	3	25
	Nevis	82,368	3	10	-	–	12	-	-	-	82,368	3	22
	St. Kitts	130,218	2	21	-	-	-	-	-	-	130,218	2	21
	St. Lucia	42,006	2	13	-	-	-	-	-	-	42,006	2	13
	St. Vincent's	254,446	–	–	-	-	-	-	-	-	254,446	–	–
	Tobago	112,930	3	16	224	2	2	-	-	-	113,155	1	18
	Tortola	43,573	–	27	25	1	13	-	-	-	43,598	2	12
	Trinidad	138,153	2	20	2	–	–	-	-	-	138,155	2	20
	Bahamas	1,458	–	–	3,921	2	10	-	-	-	5,379	2	10
	Bermudas	—			—				—		—		
	Demerara	420,186	2	4	3	3	24	-	-	-	420,190	2	–
	Berbice	17,764	–	2	-	-	-	-	-	-	17,764	–	2
	Honduras	—			—				—		—		
	Brh N° American Colonies	21	–	26	–	3	17	-	-	-	22	–	15
EAST INDIES.	East Indies	-	-	-	-	-	-	162,394	2	15	162,394	2	15
	Cape Good Hope		—			—			—			—	
	New Holland		—			—			—			—	
FOREIGN POSSESSIONS IN AMERICA, including restored Colonies.	St. Croix		—			—			—			—	
	St. Thomas	-	-	-	917	1	5	-	-	-	917	1	5
	St. Bartholomew		—			—			—			—	
	St. Martin		—			—			—			—	
	Curaçoa		—			—			—			—	
	Guadaloupe		—			—			—			—	
	Martinique		—			—			—			—	
	St. Domingo	-	-	-	8,751	2	7	-	-	-	8,751	2	7
	Cuba	-	-	-	77,022	–	15	-	-	-	77,022	–	15
	Porto Rico		—			—			—			—	
	Surinam		—			—			—			—	
	Cayenne		—			—			—			—	
	Brazils	-	-	-	46,466	–	14	-	-	-	46,466	–	14
	Spanish Contl Colonies	-	-	-	282	2	21	-	-	-	282	2	21
	United States of America	-	-	-	333	2	7	-	-	-	333	2	7
	Foreign Europe	-	-	-	2	–	17		–	– 26	2	1	15
	Prize Sugar		—			—			—			—	
	Ireland	3	3	3	-	-	-	-	-	-	3	3	3
	TOTAL from all Parts	3,665,520	1	18	138,032	2	4	162,394	3	13	3,965,947	3	7

N° 1.—Quantity of Sugar Imported into Great Britain—*continued.*

YEAR ENDING 5th JANUARY 1820.

	COUNTRIES From which Imported.	BRITISH PLANTATION.			FOREIGN PLANTATION.			EAST INDIA.			TOTAL Of all Sorts IMPORTED.		
		Cwt.	qrs.	lbs.	Cwt.	qrs.	lbs	Cwt.	qrs.	lbs.	Cwt.	qrs.	lbs.
BRITISH COLONIES AND PLANTATIONS.	Antigua	209,395	2	24	1	2	16	-	-	-	209,397	1	12
	Barbadoes	282,546	-	19	13	-	23	-	-	-	282,559	1	14
	Dominica	42,896	3	6	-	-	-	-	-	-	42,896	3	6
	Grenada	204,565	-	4	-	-	-	-	-	-	204,565	-	4
	Jamaica	1,614,346	3	13	18	-	16	-	-	-	1,614,365	-	1
	Montserrat	37,168	-	6	-	-	-	-	-	-	37,168	-	6
	Nevis	63,154	-	13	-	-	-	-	-	-	63,154	-	13
	St. Kitts	141,501	-	10	-	-	-	-	-	-	141,501	-	10
	St. Lucia	78,719	2	25	-	-	-	-	-	-	78,719	2	25
	St. Vincent's	262,033	3	3	-	-	-	-	-	-	262,033	3	3
	Tobago	132,544	-	12	-	-	-	-	-	-	132,544	-	12
	Tortola	36,421	2	16	625	1	7	-	-	-	37,046	3	23
	Trinidad	166,591	-	4	2	-	25	-	-	-	166,593	1	1
	Bahamas	1,769	3	6	2,010	-	14	-	-	-	3,779	3	20
	Bermudas	—			—			—			—		
	Demerara	480,933	1	9	5	2	17	-	-	-	480,938	3	26
	Berbice	29,967	-	12	-	-	-	-	-	-	29,967	-	12
	Honduras	1	3	16	-	-	-	-	-	-	1	3	16
	Brᵃ N° American Colonies	-	1	4	2	1	-	-	-	-	2	2	4
EAST INDIES.	East Indies	-	-	-	-	-	-	203,905	2	26	203,905	2	26
	Cape Good Hope	—			—			—			—		
	New Holland	-	-	-	-	-	-	1,621	-	10	1,621	-	10
FOREIGN POSSESSIONS IN AMERICA, including restored Colonies.	St. Croix	—			—			—			—		
	St. Thomas	-	-	-	266	1	-	-	-	-	266	1	-
	St. Bartholomew	—			—			—			—		
	St. Martin	—			—			—			—		
	Curaçoa	—			—			—			—		
	Guadaloupe	—			—			—			—		
	Martinique	—			—			—			—		
	St. Domingo	-	-	-	3,812	3	19	-	-	-	3,812	3	19
	Cuba	-	-	-	19,700	-	7	-	-	-	19,700	-	7
	Porto Rico	—			—			—			—		
	Surinam	1	3	16	-	-	-	-	-	-	1	3	1
	Cayenne	—			—			—			—		
	Brazils	-	-	-	59,373	1	16	-	-	-	59,373	1	16
	Spanish Contᴵ Colonies	—			—			—			—		
	United States of America	—			—			—			—		
	Foreign Europe	-	-	-	-	2	24	-	-	-	-	2	24
	Prize Sugar	-	-	-	4	3	18	-	-	-	4	3	18
	Ireland	875	3	22	211	-	4	-	-	-	1,086	3	26
	TOTAL from all Parts	3,785,434	1	16	86,047	3	10	205,526	3	8	4,077,009	-	6

N° 1.—Quantity of Sugar Imported into Great Britain—*continued*.

YEAR ENDING 5th JANUARY 1821.

	COUNTRIES From which Imported.	BRITISH PLANTATION.			FOREIGN PLANTATION.			EAST INDIA.			TOTAL of all Sorts IMPORTED.		
		Cwt.	qrs.	lbs.	Cwt.	qrs.	lbs.	Cwt.	qrs.	lbs.	Cwt.	qrs.	lbs.
BRITISH COLONIES AND PLANTATIONS.	Antigua	162,573	–	11	–	–	11	-	-	-	162,573	–	22
	Barbadoes	179,951	2	12	91	1	17	-	-	-	180,043	–	1
	Dominica	45,932	2	16	-	-	-	-	-	-	45,932	2	16
	Grenada	184,551	2	10	3	–	5	-	-	-	184,554	2	15
	Jamaica	1,769,124	2	23	53	2	19	-	-	-	1,769,178	1	14
	Montserrat	32,815	–	8	-	-	-	-	-	-	32,815	–	8
	Nevis	36,395	2	10	-	-	-	-	-	-	36,395	2	10
	St. Kitt's	89,501	3	20	-	-	-	-	-	-	89,501	3	20
	St. Lucia	50,220	1	19	-	-	-	-	-	-	50,220	1	19
	St. Vincent's	216,679	3	6	11	2	25	-	-	-	216,691	2	
	Tobago	109,194	3	5	-	-	-	-	-	-	109,194	3	5
	Tortola	15,225	3	4	1	–	17	-	-	-	15,226	3	21
	Trinidad	156,041	2	18	2	–	14	-	-	-	156,043	3	4
	Bahamas	-	-	-	282	2	3	-	-	-	282	2	3
	Bermudas	—			—			—			—		
	Demerara	536,561	2	7	57	3	11	-	-	-	536,619	1	18
	Berbice	37,696	1	20	-	-	-	-	-	-	37,696	1	20
	Honduras	1	3	10	-	-	-	-	-	-	1	3	10
	Brh N° American Colonies	131	–	13	173	1	2	-	-	-	304	1	15
EAST INDIES.	East Indies	-	-	-	-	-	-	277,227	3	6	277,227	3	6
	Cape Good Hope		—			—			—			—	
	New Holland		1	3	26	–	–	11	-	-	-	2	– 9
FOREIGN POSSESSIONS IN AMERICA, including restored Colonies.	St. Croix		—			—			—			—	
	St. Thomas		3	1	4	309	3	4	-	-	-	313	– 8
	St. Bartholomew		—			—			—			—	
	St. Martin		—			—			—			—	
	Curaçoa		—			—			—			—	
	Guadaloupe		—			—			—			—	
	Martinique		—			—			—			—	
	St. Domingo	-	-	-	11,370	1	6	-	-	-	11,370	1	6
	Cuba	-	-	-	62,633	2	17	-	-	-	62,633	2	17
	Porto Rico		—			—			—			—	
	Surinam	-	-	-	686	1	1	-	-	-	686	1	1
	Cayenne		—			—			—			—	
	Brazils	-	-	-	80,445	2	21	-	-	-	80,445	2	21
	Spanish Contl Colonies	-	-	-	22	–	8	-	-	-	22	–	8
	United States of America	-	-	-	–	3	4	-	-	-	–	3	4
	Foreign Europe	-	-	-	6,848	–	23	-	-	-	6,848	–	23
	Prize Goods		—			—			—			—	
	Ireland	714	3	6	-	-	-	-	-	-	714	3	6
	TOTAL from all Parts	3,623,319	2	24	162,993	2	23	277,227	3	6	4,063,541	–	25

N° 1.—Quantity of Sugar Imported into Great Britain—*continued.*

YEAR ENDING 5th JANUARY 1822.

	COUNTRIES From which Imported.	BRITISH PLANTATION.			FOREIGN PLANTATION, or uncertified.			EAST INDIA.			TOTAL Quantity IMPORTED.		
		Cwt.	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*
BRITISH COLONIES AND PLANTATIONS.	Antigua	207,548	1	23	6,000	3	17	-	-	-	213,549	1	12
	Barbadoes	211,371	2	19	2	2	25	-	-	-	211,374	1	16
	Dominica	38,119	3	11	-	-	-	-	-	-	38,119	3	11
	Grenada	216,367	3	21	-	-	-	-	-	-	216,367	3	21
	Jamaica	1,679,720	3	3	23	3	1	-	-	-	1,679,744	2	4
	Montserrat	33,282	3	4	-	-	-	-	-	-	33,282	3	4
	Nevis	66,023	2	–	-	-	-	-	-	-	66,023	2	–
	St. Kitts	128,436	–	12	-	-	-	-	-	-	128,436	–	12
	St. Lucia	77,971	1	13	-	-	-	-	-	-	77,971	1	13
	St. Vincents	233,448	1	6	2	–	7	-	-	-	233,450	1	13
	Tobago	108,243	3	1	-	-	-	-	-	-	108,243	3	1
	Tortola	23,459	3	13	11	1	7	-	-	-	23,471	–	20
	Trinidad	162,257	–	25	49	–	22	-	-	-	162,306	1	19
	Bahamas	1,082	–	5	3,980	1	2	-	-	-	5,062	1	7
	Demerara	492,146	1	7	122	2	–	-	-	-	492,268	3	7
	Berbice	53,257	2	13	1	1	6	-	-	-	53,258	3	19
	B^h N° American Colonies	1,553	3	24	1,106	1	5	-	-	-	2,660	1	1
EAST INDIES.	East Indies and China	-	-	-	-	-	-	269,158	–	12	269,158	–	12
	Africa	-	-	-	2	2	14		–	1	–	2	3	14
FOREIGN COLONIES IN AMERICA.	St. Thomas	-	-	-	273	0	19	-	-	-	273	0	19
	St. Domingo	-	-	-	–	1	17	-	-	-	–	1	17
	Cuba	-	-	-	77,333	–	13	-	-	-	77,333	–	13
	Brazils	-	-	-	105,912	3	7	-	-	-	105,912	3	7
	United States of America	-	-	-	–	–	14	-	-	-	–	–	14
	Foreign Countries in Europe		–	3	14	2,214	3	20 ¼		3	2	7	2,219	1	13 ¼
	Ireland	-	-	-	364	3	–	-	-	-	364	3	–
	TOTAL from all Parts	3,734,292	1	18	197,402	1	– ¼	269,161	3	19	4,200,856	2	9 ¼

Custom House, London,
3d May 1821, and 17th April 1822.

WILLIAM IRVING,
Inspector General of the Imports and Exports of Great Britain.

N° 2.—AN ACCOUNT of the Quantity of Raw and Refined SUGAR EXPORTED from Great Britain, from distinguishing each Year, the several Sorts of Sugar,

QUANTITY OF SUGAR EXPORTED FROM GREAT BRITAIN: - - - -

COUNTRIES TO WHICH EXPORTED.	RAW SUGAR. BRITISH PLANTATION.			FOREIGN PLANTATION.			EAST INDIA.			TOTAL OF RAW SUGAR EXPORTED.		
	Cwt.	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*
Russia	5,668	1	13	39,244	–	24	-	-	-	44,912	2	9
Sweden	14,531	–	26	23,132	–	5	-	-	-	37,663	1	3
Norway	239	3	24	469	3	8	-	-	-	709	3	4
Denmark	4,660	2	15	4,349	–	3	-	-	-	9,009	2	18
Prussia	9,576	1	6	32,832	1	1	220	–	10	42,628	2	17
Germany	86,417	3	19	142,752	1	8	3,509	2	7	232,679	3	6
Holland	110,400	3	16	88,158	2	17	14,281	–	–	212,840	2	5
Flanders	70,682	2	7	27,021	2	20	6,186	–	5	103,890	1	4
France	116,012	–	22	93,038	2	19	15,213	1	12	224,264	–	25
Portugal, &c.	-	-	-	-	-	-	-	-	-	-	-	-
Spain, &c.	628	2	7	812	1	8	22	3	4	1,463	2	19
Gibraltar	185	3	4	107	3	15	-	-	-	293	2	19
Italy	804	2	23	7,377	2	21	1,480	2	1	9,662	3	17
Malta	-	-	-	-	-	-	29	1	2	29	1	2
Ionian Islands	-	-	-	-	-	-	-	-	-	-	-	-
Turkey and Levant	-	-	-	-	-	-	73	3	7	73	3	7
Ireland	128,473	–	21	2,967	3	17	228	2	12	131,669	2	22
Isle of Man	4,239	1	5	-	-	-	-	-	-	4,239	1	5
Guernsey, Jersey, and Alderney	104	2	14	-	-	-	-	-	-	104	2	14
The East Indies and China	681	3	2	-	-	-	2	1	5	684	–	7
New Holland	9	–	–	-	-	-	-	-	-	9	–	–
Cape of Good Hope	6	–	–	-	-	-	-	-	-	6	–	–
Africa, other parts of	87	2	20	147	–	16	64	–	15	298	3	23
United States of America	—			—			—			—		
British Colonies in North America	319	1	13	345	3	24	-	-	-	665	1	9
The West Indies	13	–	12	-	-	-	-	-	-	13	–	12
Foreign Colonies on Cont. of America	28	–	11	200	1	2	-	-	-	228	1	13
TOTAL to all Parts	553,771	1	–	462,957	3	12	41,311	1	24	1,058,040	2	8

QUANTITY OF SUGAR EXPORTED FROM GREAT BRITAIN: - - - -

	Cwt.	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*
Russia	7,124	–	10	39,223	3	3	1,430	–	4	47,777	3	17
Sweden	12,822	2	9	33,086	–	18	178	2	8	46,087	1	7
Norway	2,620	–	1	1,859	1	26	258	3	4	4,738	1	3
Denmark	4,158	–	5	137	3	22	108	2	21	4,404	2	20
Prussia	11,111	2	25	14,573	2	25	170	2	7	25,856	–	1
Germany	81,507	1	12	96,279	2	11	4,969	1	15	182,756	1	10
Holland	162,905	3	10	61,003	2	6	12,183	3	25	236,093	1	13
Flanders	58,391	2	8	19,042	3	10	17,506	3	15	94,941	1	5
France	34,881	–	26	9,690	1	23	27,451	2	26	72,023	1	19
Portugal, &c.	2	–	–	-	-	-	-	-	-	2	–	–
Spain, &c.	124	1	12	4,529	3	9	31	1	20	4,685	2	13
Gibraltar	396	3	26	446	–	24	305	2	9	1,148	3	3
Italy	3,051	3	23	30,636	3	8	1,690	2	27	35,379	2	2
Malta	-	-	-	151	–	2	410	–	8	561	–	10
Ionian Islands	—			—			—			—		
Turkey and Levant	-	-	-	78	1	9	770	3	1	849	–	10
Ireland	105,987	–	–	39	–	26	757	3	10	106,784	–	8
Isle of Man	2,852	–	12	-	-	-	-	-	-	2,852	–	12
Guernsey, Jersey, and Alderney	1,137	1	22	-	-	-	-	-	-	1,137	1	22
The East Indies and China	967	1	27	15	2	10	59	–	1	1,042	–	10
New Holland	-	-	-	-	-	-	-	-	-	-	-	-
Cape of Good Hope	10	–	–	-	-	-	-	-	-	10	–	–
Africa, other parts of	131	–	–	86	3	20	25	2	26	243	2	18
United States of America	1	1	26	-	-	-	-	-	-	1	1	26
British Colonies in North America	951	3	20	516	–	21	112	3	18	1,581	–	3
The West Indies	13	2	20	20	–	16	-	-	-	33	3	8
Foreign Colonies on Cont. of America	2	–	–	-	-	-	-	-	-	2	–	–
TOTAL to all Parts	491,151	3	14	311,417	3	9	68,422	2	21	870,992	1	16

the 5th January 1814 to the 5th January 1822, reducing the quantity of Refined, into its proper proportion of Raw; and the Countries to which the same was Exported.

YEAR ENDING 5th JANUARY 1815.

REFINED SUGAR. Actual Weight Exported.			REFINED SUGAR. The same stated as Raw Sugar, in the proportion of 34 Cwt. of Raw to 20 Cwt. of Refined.			TOTAL Of all Sorts Exported Stated in Cwts. of Raw Sugar.			COUNTRIES TO WHICH EXPORTED.
Cwt.	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	
81,831	2	19	139,113	3	11	184,026	1	20	- - Russia.
7,913	2	27	13,453	1	12	51,116	2	15	- - Sweden.
538	3	16	916	–	13	1,625	3	17	- - Norway.
2,388	3	18	4,061	–	16	13,070	3	6	- - Denmark.
26,954	–	13	45,821	3	27	88,450	2	16	- - Prussia.
224,018	2	14	380,831	2	18	613,511	1	24	- - Germany.
53,757	–	18	91,387	–	19	304,227	2	24	- - Holland.
62,323	1	22	105,949	3	12	209,840	–	16	- - Flanders.
20,229	–	25	34,389	2	20	258,653	3	17	- - France.
25	–	27	42	3	18	42	3	18	- - Portugal, &c.
527	–	15	896	–	14	2,359	3	5	- - Spain, &c.
951	–	5	1,616	3	2	1,910	1	21	- - Gibraltar.
29,366	3	8	49,923	2	12	59,586	2	1	- - Italy.
3,205	–	1	5,448	2	2	5,477	3	4	- - Malta.
1,087	1	20	1,848	2	14	1,848	2	14	- - Ionian Islands.
4,548	3	4	7,732	3	22	7,806	3	1	- - Turkey and Levant.
28,042	2	19	47,672	2	8	179,342	1	2	- - Ireland.
65	2	19	111	2	15	4,350	3	20	- - Isle of Man.
1,385	2	23	2,355	2	22	2,460	1	8	- - Guernsey, Jersey, and Alderney.
134	2	21	228	3	24	913	–	3	- - The East Indies and China.
6	–	5	10	1	2	19	1	2	- - New Holland.
17	–	5	28	3	25	34	3	25	- - Cape of Good Hope.
427	3	25	727	2	6	1,026	2	1	- - Africa, other parts of.
—			—			—			- - United States of America.
4,278	–	14	7,272	3	7	7,938	–	16	- - British Colonies in North America.
1,301	2	5	2,212	2	14	2,225	2	26	- - The West Indies.
8	3	2	14	3	17	243	1	2	- Foreign Colonies on Cont. of America.
555,335	1	26	944,070	1	8	2,002,110	3	16	- - TOTAL to all Parts.

YEAR ENDING 5th JANUARY 1816.

Cwt.	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	
111,297	3	20	189,206	1	26	236,984	1	15	- - Russia.
10,166	2	1	17,283	–	7	63,370	1	14	- - Sweden.
4,063	3	15	6,908	2	12	11,646	3	15	- - Norway.
7,809	1	25	13,276	–	12	17,680	3	4	- - Denmark.
42,000	3	19	71,401	2	17	97,257	2	18	- - Prussia.
286,904	–	21	487,737	–	13	670,493	1	23	- - Germany.
6,313	–	9	10,732	–	27	246,825	2	12	- - Holland.
74,228	1	13	126,188	–	25	221,129	2	2	- - Flanders.
113	2	–	192	3	22	72,216	1	13	- - France.
447	2	9	760	3	15	762	3	15	- - Portugal, &c.
12	2	1	21	1	1	4,706	3	14	- - Spain, &c.
2,777	2	14	4,721	3	24	5,870	2	27	- - Gibraltar.
9,754	2	14	16,582	3	13	51,962	1	15	- - Italy.
5,764	–	12	9,798	3	26	10,360	–	8	- - Malta.
—			—			—			- - Ionian Islands.
8,470	2	20	14,400	–	7	15,249	–	17	- - Turkey and the Levant.
25,598	1	22	43,517	1	12	150,301	1	20	- - Ireland.
295	–	1	501	2	1	3,353	2	13	- - Isle of Man.
1,510	2	14	2,568	–	7	3,705	2	1	- - Guernsey, Jersey, and Alderney.
628	1	5	1,068	–	11	2,110	–	21	- - The East Indies and China.
5	2	8	9	1	25	9	1	25	- - New Holland.
137	–	19	233	–	25	243	–	25	- - Cape of Good Hope.
454	–	13	771	3	27	1,015	2	17	- - Africa, other parts of.
1,342	1	26	2,282	–	24	2,283	2	22	- - United States of America.
7,174	2	–	12,196	2	17	13,777	2	20	- - British Colonies in North America.
1,975	3	17	3,359	–	2	3,392	3	10	- - The West Indies.
-	-	-	-	-	-	2	–	–	- - Foreign Colonies on Cont. of America.
609,247	–	10	1,035,720	–	6	1,906,712	1	22	- - TOTAL to all Parts.

N° 2.—Account of the Quantity of Raw and Refined Sugar Exported

QUANTITY OF SUGAR EXPORTED FROM GREAT BRITAIN:

COUNTRIES TO WHICH EXPORTED.	RAW SUGAR: BRITISH PLANTATION.			FOREIGN PLANTATION.			EAST INDIA.			TOTAL OF RAW SUGAR EXPORTED.		
	Cwts.	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*
Russia	1,810	2	22	10,555	1	25	176	3	9	12,543	–	–
Sweden	2,240	1	7	8,573	1	–	178	3	4	10,992	1	11
Norway	508	1	2	233	3	3	53	1	15	795	1	20
Denmark	564	1	23	881	2	10	-	-	-	1,446	–	5
Prussia	4,221	1	20	11,208	1	10	1,561	–	15	16,990	3	17
Germany	41,628	2	16	66,576	–	14	6,015	–	8	114,219	3	10
Holland	85,864	1	17	42,124	1	5	32,533	2	16	160,522	1	10
Flanders	49,328	1	–	23,978	3	24	25,070	–	26	98,386	1	22
France	32,648	2	–	6,734	–	11	28,467	–	26	67,849	3	9
Portugal, &c.	4	–	–	1,022	2	9	32	2	19	1,059	1	–
Spain, &c.	364	1	6	970	1	27	30	1	21	1,365	–	26
Gibraltar	137	2	21	595	3	17	629	1	14	1,362	3	24
Italy	284	3	18	12,480	1	–	4,577	–	24	17,342	1	14
Malta	61	2	18	3,739	–	19	-	-	-	3,800	3	9
Ionian Islands	—			—			—			—		
Turkey and The Levant	-	-	-	165	1	9	2,013	–	11	2,178	1	20
Ireland	142,759	–	4	1,112	3	21	475	1	1	144,347	–	26
Isle of Man	3,894	3	5	-	-	-	-	-	-	3,894	3	5
Guernsey, Jersey, and Alderney	1,433	–	7	-	-	-	-	-	-	1,433	–	7
The East Indies and China	797	–	16	-	-	-	86	1	2	883	1	18
New Holland	-	-	-	-	-	-	-	-	-	-	-	-
Cape of Good Hope	18	–	7	-	-	-	-	-	-	18	–	7
Africa, other parts of	227	–	16	22	2	3	23	–	21	272	3	12
United States of America	-	-	-	-	-	-	-	-	-	-	-	-
British Colonies in North America	8,343	–	2	325	–	15	123	2	13	8,791	3	2
The West Indies	7	3	1	2	–	26	-	-	-	9	3	27
Foreign Colonies on Cont. America	1	3	–	-	-	-	-	-	-	1	3	–
TOTAL to all Parts	377,149	1	4	191,302	1	24	102,056	1	21	670,508	–	21

QUANTITY OF SUGAR EXPORTED FROM GREAT BRITAIN:

	Cut.	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*
Russia	3,911	2	10	17,889	2	14	1,423	1	15	23,224	2	11
Sweden	3,614	3	8	4,606	–	–	229	–	13	8,449	3	21
Norway	301	2	15	143	2	3	-	-	-	445	–	18
Denmark	1,178	–	5	695	1	18	36	1	23	1,909	3	18
Prussia	2,498	1	17	9,622	1	8	1,159	2	20	13,289	1	17
Germany	9,377	2	21	60,224	2	2	9,770	1	15	79,372	2	10
Holland	66,719	1	8	16,021	3	24	27,602	3	7	110,344	–	11
Flanders	37,152	3	24	20,690	3	26	24,629	–	14	82,473	–	8
France	3,416	2	22	34	1	24	20,861	–	6	24,312	–	24
Portugal, &c.	2	2	4	191	2	4	-	-	-	194	–	8
Spain, &c.	-	-	-	-	-	-	73	2	5	73	2	5
Gibraltar	-	-	-	64	1	20	1,244	2	13	1,309	–	5
Italy	-	-	-	2,506	–	2	1,175	1	26	3,681	2	–
Malta	2	–	–	-	-	-	990	1	22	992	1	22
Ionion Islands	—			—			—			—		
Turkey and The Levant	-	-	-	173	1	15	5,001	2	25	5,175	–	12
Ireland	115,824	2	14	-	-	-	275	1	26	116,100	–	12
Isle of Man	4,149	2	20	-	-	-	-	-	-	4,149	2	20
Guernsey, Jersey, and Alderney	938	3	–	-	-	-	-	-	-	938	3	–
The East Indies and China	794	1	5	3	2	4	29	3	7	827	2	16
Hew Holland	—			—			—			—		
Cape of Good Hope	5	–	–	-	-	-	-	-	-	5	–	–
Africa, other parts of	388	3	21	15	3	22	136	3	20	541	3	7
United States of America	10	1	18	-	-	-	-	-	-	10	1	18
British Colonies in North America	7,947	3	3	37	2	23	853	3	17	8,839	1	15
The West Indies	13	3	27	-	-	-	-	-	-	13	3	27
Foreign Colonies on Cont. of America	15	2	12	15	3	14	-	-	-	31	1	26
TOTAL	258,264	3	2	132,937	–	27	95,493	3	22	486,695	3	23

from Great Britain, from the 5th January 1814, to the 5th January 1822—*continued.*

YEAR ENDING FIFTH JANUARY 1817.

REFINED SUGAR: Actual Weight Exported.			REFINED SUGAR: The same stated as Raw Sugar, in the proportion of 34 Cwt. of Raw to 20 Cwt. of Refined.			TOTAL Of all Sorts Exported, Stated in Cwts. of Raw Sugar.			COUNTRIES TO WHICH EXPORTED.
Cwt.	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	
121,165	1	16	205,981	–	19	218,524	–	19	- - Russia.
4,780	–	3	8,126	–	5	19,118	1	16	- - Sweden.
715	2	9	1,216	1	26	2,011	3	18	- - Norway.
3,115	3	14	5,296	3	26	6,743	–	3	- - Denmark.
34,814	3	10	59,185	–	25	76,176	–	14	- - Prussia.
249,750	–	6	424,575	–	10	538,794	3	20	- - Germany.
4,451	–	24	7,567	–	7	168,089	1	17	- - Holland.
67,915	3	8	115,456	3	16	213,843	1	10	- - Flanders.
605	2	22	1,029	2	21	68,879	2	2	- - France.
242	3	2	412	2	23	1,471	3	23	- - Portugal, &c.
275	1	27	468	1	10	1,833	2	8	- - Spain, &c.
2,830	2	26	4,812	–	27	6,175	–	23	- - Gibraltar.
35,730	3	13	60,742	1	25	78,084	3	11	- - Italy.
13,379	1	8	22,744	3	11	26,545	2	20	- - Malta.
—			—			—			- - Ionian Islands.
6,811	1	21	11,579	1	22	13,757	3	14	- - Turkey and The Levant.
23,543	–	20	40,023	1	17	184,370	2	15	- - Ireland.
107	3	22	183	2	1	4,078	1	6	- - Isle of Man.
2,491	–	11	4,234	3	12	5,667	3	19	- - Guernsey, Jersey, and Alderney.
418	–	24	710	3	24	1,594	1	14	- - The East Indies and China.
7	2	22	13	–	9	13	–	9	- - New Holland.
121	3	–	206	3	25	225	–	4	- - Cape of Good Hope.
644	–	7	1,094	3	17	1,367	3	1	- - Africa, other parts of.
1,511	1	21	2,569	1	24	2,569	1	24	- - United States of America.
6,909	1	14	11,745	3	24	20,537	2	26	- - British Colonies in North America.
1,799	–	18	3,058	2	8	3,068	2	7	- - The West Indies.
43	–	27	73	2	–	75	1	–	- Foreign Colonies on Cont. of America.
584,182	1	3	993,109	3	14	1,663,618	–	7	- - TOTAL to all Parts.

YEAR ENDING FIFTH JANUARY 1818.

Cwt.	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	
157,143	3	15	267,144	2	11	290,369	–	22	- - Russia.
3,659	1	3	6,220	3	2	14,670	2	23	- - Sweden.
717	1	20	1,219	2	14	1,664	3	4	- - Norway.
1,032	1	6	1,754	3	19	3,664	3	9	- - Denmark.
27,993	2	12	47,589	–	15	60,869	2	4	- - Prussia.
249,875	1	10	424,788	–	9	504,160	2	19	- - Germany.
94,122	–	12	160,007	2	9	270,351	2	20	- - Holland.
17,866	1	1	30,372	3	10	112,845	3	18	- - Flanders.
2,194	–	12	3,729	3	26	28,042	–	22	- - France.
40	2	1	68	3	13	262	3	21	- - Portugal, &c.
182	2	11	310	1	19	383	3	24	- - Spain, &c.
1,365	1	25	2,321	1	6	3,630	1	11	- - Gibraltar.
87,214	–	3	148,263	3	11	151,945	1	11	- - Italy.
7,319	3	25	12,443	3	–	13,436	–	22	- - Malta.
—			—			—			- - Ionian Islands.
7,506	1	8	12,760	3	–	17,935	3	12	- - Turkey and The Levant.
25,616	–	15	43,547	1	19	159,647	2	3	- - Ireland.
252	1	23	429	–	20	4,578	3	12	- - Isle of Man.
2,306	–	22	3,920	2	4	4,859	1	4	- - Guernsey, Jersey, and Alderney.
439	2	7	747	1	–	1,574	3	16	- - The East Indies and China.
—			—			—			- - New Holland.
125	3	11	213	3	21	218	3	21	- - Cape of Good Hope.
743	3	8	1,264	2	–	1,806	1	7	- - Africa, other parts of.
74	3	23	127	1	19	137	3	9	- - United States of America.
6,644	2	24	11,296	–	2	20,135	1	17	- - British Colonies in North America.
2,458	1	15	4,179	1	1	4,193	1	–	- - The West Indies.
190	1	12	323	2	12	355	–	10	- Foreign Colonies on Cont. of America.
679,085	2	16	1,185,045	2	10	1,671,741	2	5	- - TOTAL to all Parts.

N° 2.—Account of the Quantity of Raw and Refined Sugar Exported

QUANTITY OF SUGAR EXPORTED FROM GREAT BRITAIN: - - - - -

COUNTRIES TO WHICH EXPORTED.	RAW SUGAR: BRITISH PLANTATION.			FOREIGN PLANTATION.			EAST INDIA.			TOTAL OF RAW SUGAR EXPORTED.		
	Cwt.	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*
Russia	1,709	2	16	18,563	–	22	1,830	1	7	22,103	–	17
Sweden	1,356	2	15	3,884	–	24	46	1	20	5,287	1	3
Norway	867	2	18	269	1	23	106	–	26	1,243	1	11
Denmark	12	–	4	-	-	-	1,306	1	15	1,318	1	19
Prussia	1,831	–	12	7,233	–	15	5,714	1	4	14,778	2	3
Germany	6,764	3	7	23,260	3	17	22,734	3	5	52,760	2	1
Holland	31,742	3	20	12,627	3	14	11,079	2	24	55,450	2	2
Flanders	39,888	3	21	13,884	2	19	34,140	1	5	87,913	3	17
France	4,488	3	26	327	2	19	25,149	–	22	29,965	3	11
Portugal, &c.	15	1	21	427	3	2	-	-	-	443	–	23
Spain, &c.	-	-	-	872	–	9	266	2	3	1,138	2	12
Gibraltar	-	-	-	203	2	25	108	3	14	312	2	11
Italy	1,087	2	–	26,395	–	5	5,939	1	18	33,421	3	23
Malta	-	-	-	141	1	5	421	–	13	562	1	18
Ionian Islands	-	-	-	-	-	-	-	-	-	-	-	-
Turkey and The Levant	-	-	-	40	2	14	146	–	14	186	3	–
Ireland	169,106	3	21	-	-	-	371	–	27	169,478	–	20
Isle of Man	4,698	–	7	-	-	-	-	-	-	4,698	–	7
Guernsey, Jersey, and Alderney	30	–	25	-	-	-	-	-	-	30	–	25
The East Indies and China	750	2	3	8	1	21	26	–	23	785	–	19
New Holland	-	-	-	-	-	-	–	3	19	–	3	19
Cape of Good Hope	7	2	–	-	-	-	-	-	-	7	2	–
Africa, other parts of	164	–	10	12	3	12	353	–	21	530	–	15
United States of America	—			—			—			—		
British Colonies in North America	3,062	1	16	119	3	16	581	3	18	3,764	–	22
The West Indies	9	–	14	414	3	23	-	-	-	424	–	9
Foreign Colonies on Cont. of America	8	–	16	-	-	-	-	-	-	8	–	16
TOTAL to all Parts	267,602	2	20	108,687	3	5	110,323	–	18	486,613	2	15

QUANTITY OF SUGAR EXPORTED FROM GREAT BRITAIN: - - - - -

	Cwt.	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*
Russia	1,167	2	3	12,152	1	16	957	1	16	14,277	1	7
Sweden	693	3	9	1,990	–	6	2,300	2	12	4,984	1	27
Norway	108	2	18	214	–	4	565	3	22	888	2	16
Denmark	70	–	7	763	–	27	844	2	6	1,677	3	12
Prussia	3,959	3	23	5,815	–	14	4,289	1	1	14,064	1	10
Germany	25,926	2	4	47,311	3	1	28,048	2	20	101,286	3	25
Holland	4,283	1	3	11,002	2	27	8,999	2	3	24,285	2	5
Flanders	7,871	3	17	7,132	2	9	18,417	1	17	33,421	3	15
France	2,406	3	9	850	–	24	12,739	2	9	15,996	2	14
Portugal, &c.	9	1	14	694	–	7	-	-	-	703	1	21
Spain, &c.	324	3	24	4,590	3	18	159	3	1	5,075	2	15
Gibraltar	-	-	-	3,108	–	26	265	1	6	3,373	2	4
Italy	1,172	–	12	6,145	2	24	6,464	2	7	13,782	1	15
Malta	-	-	-	874	2	6	405	–	13	1,279	2	19
Ionian Islands	-	-	-	-	-	-	-	-	-	-	-	-
Turkey and The Levant	19	3	20	-	-	-	731	–	8	751	–	–
Ireland	159,594	3	7	-	-	-	626	2	4	160,221	1	11
Isle of Man	4,938	1	8	-	-	-	-	-	-	4,938	1	8
Guernsey, Jersey, and Alderney	34	3	3	-	-	-	-	-	-	34	3	3
The East Indies and China	663	1	6	2	2	1	35	2	25	701	2	4
New Holland	25	1	16	-	-	-	-	-	-	25	1	16
Cape of Good Hope	-	-	-	-	-	-	-	-	-	-	-	-
Africa, other parts of	87	–	19	10	–	6	423	3	27	521	–	24
United States of America	-	-	-	-	-	-	-	-	-	-	-	-
British Colonies in North America	5,009	2	22	50	1	6	1,938	3	21	6,998	3	21
The West Indies	7	–	9	-	-	-	-	-	-	7	–	9
Foreign Colonies on Cont. of America	8	2	6	1	–	21	-	-	-	9	2	27
TOTAL to all Parts	218,384	–	7	102,709	2	19	88,213	3	22	409,307	2	20

from Great Britain, from the 5th January 1814 to the 5th January 1822—*continued.*

YEAR ENDING FIFTH JANUARY 1819.

REFINED SUGAR: Actual Weight Exported.			REFINED SUGAR: The same stated as Raw Sugar, in the proportion of 34 Cwt. of Raw to 20 Cwt. of Refined.			TOTAL of all Sorts Exported, stated in Cwts. of Raw Sugar.			COUNTRIES TO WHICH EXPORTED.
Cwt.	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	
198,959	–	4	338,230	1	12	360,333	2	1	Russia.
3,694	1	11	6,280	1	15	11,567	2	18	Sweden.
831	3	25	1,414	1	11	2,657	2	22	Norway.
5,932	1	12	10,085	–	–	11,403	1	19	Denmark.
24,705	3	1	41,999	3	4	56,778	1	7	Prussia.
222,836	–	26	378,821	2	16	431,582	–	17	Germany.
39,672	1	12	67,443	–	–	122,893	2	2	Holland.
5,537	2	19	9,414	–	4	97,327	3	21	Flanders.
982	3	22	1,671	–	1	31,636	3	12	France.
122	3	15	208	3	16	652	–	11	Portugal, &c.
-	-	-	-	-	-	1,138	2	12	Spain, &c.
4,551	–	4	7,736	3	1	8,049	1	12	Gibraltar.
145,284	–	11	246,982	3	24	280,404	3	19	Italy.
6,052	3	25	10,290	–	6	10,852	1	24	Malta.
951	1	16	1,617	1	13	1,617	1	13	Ionian Islands.
11,306	3	1	19,221	1	27	19,408	–	27	Turkey and The Levant.
30,706	–	22	52,200	2	4	221,678	2	24	Ireland.
191	–	17	324	3	23	5,023	–	2	Isle of Man.
1,475	2	6	2,508	1	22	2,538	2	19	Guernsey, Jersey, and Alderney.
347	3	25	591	2	6	1,376	2	25	The East Indies and China.
40	1	1	68	1	21	69	1	12	New Holland.
126	2	27	215	1	23	222	3	23	Cape of Good Hope.
830	1	6	1,411	2	3	1,941	2	18	Africa, other parts of.
									United States of America.
3,397	–	24	5,775	1	2	9,539	1	24	British Colonies in North America.
8,641	3	5	4,491	–	5	4,915	–	14	The West Indies.
6	1	3	10	2	19	18	3	7	Foreign Colonies on Cont. of America.
711,185	1	4	1,209,014	3	26	1,695,628	2	13	TOTAL to all Parts.

YEAR ENDING FIFTH JANUARY 1820.

Cwt.	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	
153,585	–	16	261,094	2	27	275,372	–	6	Russia.
4,660	1	27	7,922	3	9	12,907	1	8	Sweden.
636	1	4	1,081	2	21	1,971	1	9	Norway.
2,400	3	–	4,081	1	3	5,759	–	15	Denmark.
21,288	1	15	36,190	1	4	50,254	2	14	Prussia.
186,451	1	10	316,967	1	3	418,254	1	–	Germany.
15,317	–	6	26,038	3	27	50,324	2	4	Holland.
582	2	2	990	1	3	34,412	–	18	Flanders.
118	3	27	202	1	3	16,198	3	17	France.
13	–	17	22	1	11	725	3	4	Portugal, &c.
4	1	15	7	1	22	5,083	–	9	Spain, &c.
1,958	3	16	3,330	–	13	6,703	2	17	Gibraltar.
1,764	2	17	138,999	3	17	152,782	1	4	Italy.
7,850	–	25	13,345	1	14	14,625	–	5	Malta.
1,082	–	10	1,839	2	6	1,839	2	6	Ionian Islands.
0,007	3	18	17,013	1	22	17,764	1	22	Turkey and The Levant.
6,582	–	15	45,189	2	14	205,410	3	25	Ireland.
331	1	25	563	2	5	5,501	3	13	Isle of Man.
2,691	3	7	4,576	–	9	4,610	3	12	Guernsey, Jersey, and Alderney.
309	1	4	525	3	4	1,227	1	8	The East Indies and China.
43	2	21	74	1	1	99	2	17	New Holland.
204	–	11	346	3	24	346	3	24	Cape of Good Hope.
149	3	7	254	2	20	775	3	16	Africa, other parts of.
6	–	11	10	1	13	10	1	13	United States of America.
4,087	1	14	6,948	2	4	13,947	1	25	British Colonies in North America.
3,087	2	14	5,248	3	23	5,256	–	4	The West Indies.
3	3	23	6	2	24	16	1	23	Foreign Colonies on Cont. of America.
525,219	2	13	892,873	1	10	1,302,181	–	2	TOTAL to all Parts.

N° 2.—Account of the Quantity of Raw and Refined Sugar Exported

QUANTITY OF SUGAR EXPORTED FROM GREAT BRITAIN: - - - -

COUNTRIES TO WHICH EXPORTED.	RAW SUGAR: BRITISH PLANTATION.			FOREIGN PLANTATION.			EAST INDIA.			TOTAL OF RAW SUGAR EXPORTED.		
	Cwt.	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*
Russia	3,780	1	20	75,370	1	21	36,128	2	2	115,279	1	15
Sweden	5,238	1	23	2,309	2	1	3,740	–	19	11,288	–	15
Norway	363	1	3	94	1	19	442	3	18	900	2	12
Denmark	511	1	21	-	-	-	809	1	26	1,320	3	19
Prussia	6,047	–	5	5,047	2	21	5,814	2	1	16,909	–	27
Germany	10,523	–	2	36,390	–	15	75,644	3	19	122,558	–	8
Holland	22,715	–	21	3,268	1	2	9,964	3	26	35,948	1	21
Flanders	13,533	–	1	12,415	3	27	40,941	1	27	66,890	1	27
France	13	2	22	-	-	-	3,146	2	18	3,160	1	12
Portugal, &c.	-	-	-	186	2	22	51	–	13	237	3	7
Spain, &c.	-	-	-	725	1	4	44	–	4	769	1	8
Gibraltar	-	-	-	-	-	-	-	-	-	-	-	-
Italy	863	1	23	1,693	–	2	1,550	3	3	4,107	1	–
Malta	-	-	-	3	3	–	636	–	18	639	3	18
Ionian Islands	—			—			—			—		
Turkey and The Levant	-	-	-	277	–	19	1,918	3	16	2,196	–	7
Ireland	102,739	2	9	-	-	-	1,534	1	24	104,274	–	5
Isle of Man	5,674	3	19	233	1	21	730	–	14	6,638	1	26
Guernsey, Jersey, and Alderney	8	1	14	-	-	-	-	-	-	8	1	14
The East Indies and China	489	–	13	-	-	-	94	1	18	583	2	3
New Holland	54	1	25	-	-	-	-	-	-	54	1	25
Cape of Good Hope	-	-	-	238	–	26	243	1	24	481	2	22
Africa, other parts of	49	3	14	13	–	22	715	–	10	778	–	18
United States of America	—			—			—			—		
British Colonies in North America	6,787	–	9	28	2	23	2,450	2	25	9,266	2	1
The West Indies	4	–	8	1	3	9	-	-	-	5	3	17
Foreign Colonies on Cont. of America	5	2	–	-	-	-	-	-	-	5	2	–
TOTAL to all Parts	179,402	–	–	138,297	3	2	186,602	3	17	504,302	2	19

N° 3.—QUANTITY OF SUGAR EXPORTED FROM GREAT BRITAIN: - - - -

	Cwt.	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*
Russia	1	3	27	68,135	2	3	12,775	3	11	80,913	1	13
Sweden	463	–	13	11,497	2	7	10,423	2	7	22,384	–	27
Norway	25	1	21	1,861	2	13	638	3	23	2,526	–	1
Denmark	125	2	18	10	1	27	2,220	2	23	2,356	3	12
Prussia	1,550	2	1	6,246	1	17	11,506	3	20	19,303	3	10
Germany	357	2	18	39,853	1	17	24,580	3	19	64,791	3	26
Holland	283	3	15	16,578	3	15	32,491	2	7	49,354	1	9
Flanders	-	-	-	12,508	2	11	17,823	2	16	30,332	–	27
France	130	2	19	562	2	16	337	1	16	1,032	2	23
Portugal, &c.	3	2	24	204	1	12	5	2	8	213	2	16
Spain, &c.	-	-	-	-	-	-	60	3	18	60	3	18
Gibraltar	-	-	-	-	-	-	-	-	-	-	-	-
Italy	-	-	-	25,448	1	6	27,463	3	17	52,912	–	23
Malta	-	-	-	811	2	2	636	–	2	1,447	2	4
The Ionian Islands	-	-	-	-	-	-	-	-	-	-	-	-
Turkey and The Levant	-	-	-	-	-	-	115	2	15	115	2	15
The East Indies and China	439	1	23	-	-	-	298	1	21	737	3	16
New Holland	26	–	19	10	2	18	19	3	6	56	2	15
Cape of Good Hope	-	-	-	-	-	-	-	-	-	-	-	-
Africa, other parts of	55	2	3	65	–	27	1,015	3	6	1,136	2	8
United States of America	465	3	11	-	-	-	-	-	-	465	3	11
British Colonies in North America	1,325	3	20	1,187	2	21	1,827	–	4	4,340	2	17
The West Indies	4	2	6	2	1	12	-	-	-	6	3	18
Foreign Colonies on Continent of America	8	–	16	-	-	-	-	-	-	8	–	16
Ireland, and the Isles of Guernsey, Jersey, Alderney and Man	143,934	3	16	1,340	2	3	3,040	3	9	148,316	1	–
TOTAL to all Parts	149,203	–	18	186,325	3	3	147,283	1	24	482,812	1	17

Inspector General's Office,
Custom House, London,
3d May 1821, 17th April 1822.

from Great Britain, from the 5th January 1814, to the 5th January 1822—*continued.*

YEAR ENDING FIFTH JANUARY 1821.

REFINED SUGAR. Actual Weight Exported.			REFINED SUGAR. The same stated as Raw Sugar, in the proportion of 34 Cwt. of Raw to 20 Cwt. of Refined.			TOTAL Of all Sorts Exported, stated in Cwts. of Raw Sugar.			COUNTRIES TO WHICH EXPORTED.
Cwt.	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	
49,311	—	13	83,828	3	16	199,108	1	3	Russia.
715	—	24	1,215	3	13	12,504	—	—	Sweden.
625	1	23	1,063	1	6	1,963	3	18	Norway.
3,654	—	7	6,211	3	17	7,532	3	8	Denmark.
33,428	1	12	56,828	—	23	73,737	1	22	Prussia.
321,327	1	19	546,256	2	12	668,814	2	20	Germany.
11,338	1	21	19,275	1	10	55,223	3	3	Holland.
425	1	6	723	—	2	67,613	2	1	Flanders.
1,357	3	8	2,308	1	5	5,468	2	17	France.
45	3	11	77	3	22	315	3	1	Portugal, &c.
-	-	-	-	-	-	769	1	8	Spain, &c.
6,693	1	18	11,378	3	5	11,378	3	5	Gibraltar.
184,479	—	19	313,614	2	9	317,721	3	9	Italy.
8,330	2	9	14,161	3	26	14,801	3	16	Malta.
—			—			—			Ionian Islands.
13,530	2	19	23,002	—	15	25,198	—	22	Turkey and The Levant.
33,354	1	21	56,702	2	4	160,976	2	9	Ireland.
159	1	7	270	3	8	6,909	1	6	Isle of Man.
2,216	1	27	3,768	—	3	3,776	1	17	Guernsey, Jersey, and Alderney.
531	3	2	904	—	5	1,487	2	8	The East Indies and China.
324	2	4	551	2	23	606	—	20	New Holland.
102	2	2	174	1	3	655	3	25	Cape of Good Hope.
739	3	17	1,257	3	9	2,035	3	27	Africa, other parts of.
—			—			—			United States of America.
4,120	1	1	7,004	1	21	16,270	3	22	British Colonies in North America.
2,611	1	27	4,439	2	5	4,445	1	22	The West Indies.
137	—	24	233	1	1	238	3	1	Foreign Colonies on Cont. of America.
679,560	3	5	1,155,253	1	11	1,659,556	—	2	TOTAL to all Parts.

YEAR ENDING FIFTH JANUARY 1822.

Cwt.	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	*Cwt.*	*qrs.*	*lbs.*	
49,316	2	25	83,838	1	20	164,751	3	5	Russia.
1,200	3	25	2,041	2	17	24,425	3	16	Sweden.
1,630	2	23	2,772	—	22	5,298	—	23	Norway.
1,857	—	22	3,157	—	26	5,514	—	10	Denmark.
35,550	3	4	60,436	1	9	79,740	—	19	Prussia.
240,552	1	10	408,938	3	25	473,730	3	23	Germany.
1,019	3	27	1,733	3	26	51,088	1	7	Holland.
-	-	-	-	-	-	30,332	—	27	Flanders.
2,712	1	26	4,611	—	24	5,641	3	19	France.
34	1	12	58	1	18	272	—	6	Portugal, &c.
-	-	-	-	-	-	60	3	18	Spain, &c.
3,199	1	23	5,439	—	8	5,439	—	8	Gibraltar.
219,969	—	22	373,947	2	15	426,859	3	10	Italy.
15,781	—	6	26,827	3	4	28,275	1	8	Malta.
942	3	18	1,602	3	21	1,602	3	21	The Ionian Islands.
14,959	1	17	25,430	3	25	25,546	2	12	Turkey and The Levant.
729	3	7	1,240	2	20	1,978	2	8	The East Indies and China.
148	3	16	253	—	14	309	3	1	New Holland.
140	2	25	239	—	25	239	—	25	Cape of Good Hope.
917	1	1	1,559	1	9	2,695	3	17	Africa, other parts of.
4	—	18	7	—	8	472	3	19	United States of America.
4,663	2	9	7,298	—	9	12,268	2	26	British Colonies in North America.
2,624	—	2	4,460	3	9	4,467	2	27	The West Indies.
44	1	—	75	—	25	83	1	13	Foreign Colonies on Continent of America.
47,357	—	3	80,507	—	2	228,823	1	2	Ireland, and the Isles of Guernsey, Jersey, Alderney and Man.
645,357	1	5	1,097,107	1	17	1,579,919	3	6	TOTAL to all Parts.

WILLIAM IRVING,
Inspector General of the Imports and Exports of Great Britain.

A.

CALCUTTA WEEKLY MARKET PRICE OF CHEENEE,

Per Bazar Maund of 82 lbs..

(Extracted from Bengal Board of Trade Consultations.)

WEEK ending 1812:	Best Sort p' Maund, 82 lbs.		Second Sort, p' Maund, 82 lbs.		Date Tree, p' Maund, 82 lbs.	
	SRs.	As.	SRs.	As.	SRs.	As.
5 Jan.	6	14 to 7	6	8 to 6	12	5 12 to 6 0
12 —	7	0 – 7	4	6 8 – 6	12	5 12 – 6 0
19 —	7	2 – 7	6	6 14 – 7	2	5 12 – 6 0
26 —	7	2 – 7	6	6 14 – 7	2	5 12 – 6 0
2 Feb.	7	0 – 7	4	6 12 – 7	0	5 12 – 6 0
9 —	7	4 – 7	8	6 12 – 7	0	6 0 – 6 4
16 —	7	4 – 7	8	6 8 – 6	12	5 12 – 6 0
23 —	7	4 – 7	8	6 8 – 6	12	5 8 – 5 12
1 Mar.	7	0 – 7	8	6 4 – 6	8	5 8 – 5 12
8 —	7	4 – 7	8	6 4 – 6	8	5 8 – 5 12
15 —	7	4 – 7	8	6 4 – 6	8	5 8 – 5 12
22 —	7	8 – 7	4	6 4 – 6	8	5 8 – 5 12
29 —	7	4 – 7	8	6 4 – 6	8	5 8 – 5 12
6 April	7	8 – 7	12	6 8 – 6	12	5 12 – 6 0
12 —	7	8 – 7	12	6 8 – 6	12	nil.
19 —	7	12 – 8	0	6 8 – 6	12	6 8 to 6 12
26 —	7	12 – 8	0	6 8 – 6	12	6 8 – 6 12
3 May		nil.		nil.		7 12 – 7 8
10 —	8	12 to 9	0	nil.		nil.
17 —	8	12 – 9	0	8 4 to 8	8	7 12 to 8 0
24 —	8	12 – 9	0	8 0 – 8	4	7 4 – 7 8
1 June	8	12 – 9	4	8 0 – 8	4	7 4 – 7 8
7 —	8	12 – 9	0	8 0 – 8	4	7 4 – 7 8
14 —		nil.		7 8 – 7	12	6 8 – 6 12
21 —		nil.		7 8 – 7	12	6 8 – 6 12
28 —	8	0 to 8	8	7 0 – 7	4	nil.
4 July	8	4 – 8	8	nil.		6 12 to 7 0
12 —	8	4 – 8	8	nil.		6 12 – 7 0
19 —	8	0 – 8	4	nil.		6 10 – 6 12
26 —	8	0 – 8	4	nil.		6 12 – 7 0
2 Aug.	8	0 – 8	4	nil.		6 12 – 7 0
9 —	7	12 – 8	0	7 4 to 7	8	6 12 – 7 0
16 —	7	12 – 8	0	nil.		6 12 – 7 0
23 —	7	12 – 8	0	7 4 to 7	8	6 12 – 7 0
30 —	7	12 – 8	0	7 4 – 7	8	6 8 – 6 12
6 Sep.	8	0 – 8	4	7 8 – 7	12	6 12 – 7 0
13 —	7	12 – 8	0	7 4 – 7	8	6 12 – 7 0
20 —	8	4 – 8	8	7 4 – 7	8	6 12 – 7 0
27 —	7	12 – 8	0	6 12 – 7	0	6 8 – 6 12
4 Oct.	7	12 – 8	0	6 12 – 7	0	6 8 – 6 12
11 —	8	0 – 8	4	7 0 – 7	4	6 8 – 6 12
18 —	8	0 – 8	4	7 0 – 7	4	6 8 – 6 12
25 —	8	4 – 8	8	7 0 – 7	4	6 12 – 7 0
1 Nov.	9	0 – 9	4	8 8 – 8	12	7 12 – 8 0
8 —	9	0 – 9	4	8 8 – 8	12	7 12 – 8 0
15 —	8	12 – 9	0	8 0 – 8	4	nil.
22 —	8	12 – 9	0	8 0 – 8	4	nil.
29 —	9	4 – 9	8	8 4 – 8	8	7 0 to 7 4
6 Dec.	9	4 – 9	8	8 4 – 8	8	7 0 – 7 4
13 —	9	4 – 9	8	8 4 – 8	8	7 0 – 7 4
20 —	9	4 – 9	8	8 4 – 8	8	7 0 – 7 4
27 —	8	4 – 8	8	7 4 – 7	8	6 8 – 6 12
1813:						
3 Jan.	8	4 – 8	8	7 4 – 7	8	6 8 – 6 12
10 —	8	8 – 8	12	7 8 – 7	12	6 8 – 6 12
17 —	8	12 – 9	0	7 12 – 8	0	6 8 – 6 10
24 —	9	12 – 10	0	8 12 – 9	0	nil.
31 —	9	12 – 10	0	8 12 – 9	0	nil.

WEEK ending 1813:	Best Sort, p' Maund, 82 lbs.		Second Sort, p' Maund, 82 lbs.		Date Tree, p' Maund, 82 lbs.	
	SRs.	As.	SRs.	As.	SRs.	As.
7 Feb.	9	12 to 10	0	8 12 to 9	0	nil.
14 —	9	12 – 10	0	8 12 – 9	0	nil.
21 —	9	12 – 10	0	8 12 – 9	0	nil.
28 —	9	12 – 10	0	8 12 – 9	0	nil.
7 Mar.	9	12 – 10	0	8 12 – 9	0	nil.
14 —	9	12 – 10	0	8 12 – 9	0	nil.
21 —	9	8 – 9	12	8 8 – 8	12	nil.
28 —	9	0 – 9	8	8 0 – 8	8	nil.
4 April	9	8 – 9	12	8 4 – 8	8	8 0 to 8 4
11 —	9	8 – 9	12	8 4 – 8	8	8 0 – 8 4
18 —	9	8 – 9	12	8 4 – 8	8	8 0 – 8 4
23 —	9	4 – 9	8	8 4 – 8	8	8 0 – 8 4
2 May	9	4 – 9	8	8 4 – 8	8	7 8 – 7 12
9 —	8	12 – 9	0	7 12 – 8	0	7 4 – 7 8
16 —	8	12 – 9	0	7 12 – 8	0	7 8 – 7 12
23 —	8	12 – 9	0	7 12 – 8	0	7 0 – 7 6
30 —	9	0 – 9	4	8 4 – 8	8	7 12 – 8 0
6 June	9	0 – 9	4	8 4 – 8	8	7 12 – 8 0
13 —	8	12 – 9	0	7 8 – 7	12	6 12 – 7 0
20 —	8	12 – 9	0	7 8 – 7	12	7 0 – 7 4
27 —	8	12 – 9	0	7 4 – 7	8	7 0 – 7 4
4 July	8	12 – 9	0	7 4 – 7	8	6 12 – 7 0
11 —	8	4 – 8	8	7 4 – 7	8	6 12 – 7 0
18 —	8	12 – 9	0	7 4 – 7	8	6 8 – 6 12
25 —	8	4 – 8	8	7 4 – 7	8	6 8 – 6 12
1 Aug.	8	4 – 8	8	7 4 – 7	8	6 8 – 6 12
8 —	8	4 – 8	8	7 4 – 7	8	6 8 – 6 12
15 —	8	4 – 8	8	7 4 – 7	8	6 8 – 6 12
22 —	8	4 – 8	8	7 4 – 7	8	6 8 – 6 12
29 —	8	4 – 8	8	7 4 – 7	8	6 8 – 6 12
5 Sept.	8	8 – 8	12	7 4 – 7	8	6 12 – 7 0
12 —	8	12 – 9	0	7 8 – 7	12	6 12 – 7 0
19 —	8	12 – 9	0	7 8 – 7	0	6 12 – 7 0
26 —	8	12 – 9	0	7 8 – 7	12	6 12 – 7 0
10 Oct.	9	12 – 10	0	9 0 – 9	4	8 8 – 8 12
17 —	9	12 – 10	0	8 8 – 8	12	6 12 – 7 0
24 —	9	12 – 10	0	8 12 – 9	0	8 4 – 8 8
31 —	9	12 – 10	0	8 12 – 9	0	8 4 – 8 8
7 Nov.	9	0 – 9	4	8 8 – 8	12	nil.
14 —	9	0 – 9	4	8 8 – 8	12	7 12 to 8 0
21 —	9	0 – 9	4	8 8 – 8	12	7 12 – 8 0
28 —	9	0 – 9	4	8 8 – 8	12	7 12 – 8 0
5 Dec.	9	0 – 9	4	8 8 – 8	12	7 12 – 8 0
12 —	9	0 – 9	4	8 8 – 8	12	7 12 – 8 0
19 —	8	12 – 9	0	8 4 – 8	8	7 4 – 7 8
26 —	8	12 – 9	0	8 0 – 8	4	7 8 – 7 12
1814:						
2 Jan.	8	12 – 9	0	8 4 – 8	8	7 8 – 7 12
9 —	8	12 – 9	0	8 4 – 8	8	7 8 – 7 12
16 —	8	12 – 9	0	8 4 – 8	8	7 4 – 7 8
23 —	8	12 – 9	0	7 12 – 8	0	nil.
30 —	8	12 – 9	0	7 12 – 8	0	7 4 to 7 8
6 Feb.	8	12 – 9	0	7 12 – 8	0	7 4 – 7 8
13 —	8	12 – 9	0	7 12 – 8	0	7 4 – 7 8
20 —	8	12 – 9	0	7 8 – 7	12	6 4 – 6 8
27 —	8	12 – 9	0	7 8 – 7	12	6 4 – 6 8

WEEK ending 1814:	Best Sort p' Maund, 82 lbs.				Second Sort, p' Maund, 82 lbs.				Date Tree, p' Maund, 82 lbs.			
	SRs.	As.		SRs.	As.		SRs.	As.		SRs.	As.	
6 Mar.	8	12	to	9	0	7	8	to	7	12	6	4	to	6	8
13 —	9	12	–	10	0	7	4	–	7	8			nil.		
20 —	9	12	–	10	0	7	12	–	8	0			nil.		
27 —	9	12	–	10	0	7	12	–	8	0			nil.		
3 April			nil.					nil.			8	12	to	9	0
10 —			nil.					nil.			8	4	–	8	8
17 —			nil.					nil.			8	4	–	8	8
24 —	9	12	to	10	0	8	12	to	9	0	7	12	–	8	0
1 May	10	0		—		9	0		—		8	8		—	
8 —	9	12	–	10	0	9	4	–	9	8	8	4	–	8	8
15 —	9	4	–	9	8	8	8	–	8	12	8	4	–	8	8
22 —	9	4	–	9	8	8	8	–	8	12	8	0	–	8	4
29 —	9	4	–	9	8	8	8	–	8	12	8	0	–	8	4
5 June	9	8	–	9	12	8	4	–	8	8	7	12	–	8	0
12 —	9	8	–	9	12	8	4	–	8	8	7	12	–	8	0
19 —	9	0	–	9	4	8	4	–	8	8	7	12	–	8	0
26 —	9	0	–	9	4	8	4	–	8	8	7	12	–	8	0
3 July	8	12	–	9	0	8	4	–	8	8	7	4	–	7	8
10 —	8	12	–	9	0	8	4	–	8	8	7	12	–	8	0
17 —	8	8	–	8	12	8	0	–	8	4	7	4	–	7	8
24 —	8	4	–	8	8	7	12	–	8	0	7	0	–	7	4
31 —	8	8	–	8	12	8	0	–	8	4	7	0	–	7	4
7 Aug.	8	12	–	9	8	8	0	–	8	8	7	8	–	7	12
14 —	9	0	–	9	4	8	8	–	8	12	7	12	–	8	0
21 —	8	12	–	9	0	8	4	–	8	8			nil.		
28 —	9	0	–	9	4	8	6	–	8	8	7	8	to	7	12
4 Sept.	9	0	–	9	4	8	8	–	8	12	7	8	–	7	12
11 —	9	0	–	9	4	8	8	–	8	12	7	8	–	7	12
18 —	9	4	–	9	8	8	12	–	9	0			nil.		
25 —	9	4	–	9	8	8	4	–	8	8			nil.		
2 Oct.	9	0	–	9	4	8	4	–	8	8			nil.		
9 —	9	4	–	9	8	8	4	–	8	8			nil.		
16 —	9	4	–	9	8	8	4	–	8	8			nil.		
23 —	9	4	–	9	8	8	4	–	8	8			nil.		
28 —	9	4	–	9	8	8	4	–	8	8			nil.		
6 Nov.	9	4	–	9	8	8	4	–	8	8			nil.		
13 —	9	4	–	9	8	8	12	–	9	0			nil.		
20 —	9	4	–	9	8			nil.			7	0	to	7	8
27 —	8	8	–	9	0			nil.			7	4	–	7	8
4 Dec.	8	8	–	8	12	7	8	to	7	12	6	12	–	7	0
11 —	8	12	–	9	0	7	12	–	8	0	7	4	–	7	8
18 —	8	8	–	8	12			nil.			7	4	–	7	8
25 —	8	8	–	8	12			nil.			7	4	–	7	8
1815:															
1 Jan.	8	4	–	8	8			nil.			7	4	–	7	8
8 —	8	4	–	8	8			nil.			7	4	–	7	8
15 —	8	4	–	8	8			nil.			7	4	–	7	8
22 —	8	12	–	9	0	7	12	to	8	0	6	12	–	7	0
29 —	8	8	–	8	12	7	8	–	8	0	6	12	–	7	0
5 Feb.	8	12	–	9	0	7	12	–	8	0	6	12	–	7	0
12 —	8	0	–	8	8	7	8	–	8	0	6	8	–	7	0
19 —	8	0	–	8	8	7	8	–	8	0	6	8	–	7	0
26 —	8	8	–	9	0	7	8	–	8	0	6	8	–	6	12
5 Mar.	8	12	–	9	0	7	8	–	7	12	6	8	–	6	12
12 —	8	12	–	9	0	7	8	–	7	12	6	8	–	6	12
19 —	8	0	–	8	8	7	0	–	7	8	6	0	–	6	4
26 —	8	4	–	8	8	6	12	–	7	0	6	4	–	6	8
2 Apr.	8	4	–	8	8	7	4	–	7	8	6	0	–	6	4
9 —	8	4	–	8	8	7	4	–	7	8	6	0	–	6	4
16 —	8	12	–	9	0	7	12	–	8	0	7	4	–	7	8
23 —	8	0	–	8	8	7	4	–	7	8	7	0	–	7	4
30 —	9	4	–	9	8	8	4	–	8	8			nil.		
7 May	9	4	–	9	8	8	4	–	8	8			nil.		
14 —	9	4	–	9	8	8	4	–	8	8			nil.		
21 —	9	8	–	9	12	6	8	–	7	4	7	8	to	7	12
28 —	9	8	–	9	12	8	4	–	8	8			nil.		

WEEK ending 1815:	Best Sort, p' Maund, 82 lbs.				Second Sort, p' Maund, 82 lbs.				Date Tree, p' Maund, 82 lbs.			
	SRs.	As.		SRs.	As.		SRs.	As.		SRs.	As.	
4 June	9	12	to	10	0	6	12	to	7	0	7	12	to	8	0
11 —	9	12	–	10	0	6	12	–	7	0	7	12	–	8	0
18 —	9	12	–	10	0	6	4	–	6	8	7	8	–	7	12
25 —	9	12	–	10	0	6	12	–	7	0	7	8	–	7	12
2 July	9	12	–	10	0	6	12	–	7	0	7	8	–	7	12
9 —	10	4	–	10	8	7	12	–	8	0	7	4	–	7	8
16 —	10	8	–	10	12	7	8	–	7	12	8	0	–	8	4
23 —	10	4	–	10	8	9	12	–	10	0	6	12	–	7	0
30 —	10	4	–	10	8	9	12	–	10	0			nil.		
6 Aug.	10	4	–	10	8	9	12	–	10	0			nil.		
13 —	10	12	–	11	0	9	8	–	9	12	8	12	to	9	0
20 —	10	12	–	11	0	8	12	–	9	0	8	4	–	8	8
27 —	10	12	–	11	0	8	12	–	9	0	8	4	–	8	8
3 Sept.	10	0	–	10	4	9	4	–	9	8	8	12	to	9	0
10 —	10	0	–	10	4	9	4	–	9	8			nil.		
17 —	10	8	–	10	12	9	12	–	10	0	8	4	to	8	8
24 —	10	4	–	10	8	9	8	–	9	12	7	12	–	8	0
1 Oct.	10	4	–	10	8	9	8	–	9	12	8	4	–	8	8
15 —	10	4	–	10	8	9	8	–	9	12	8	4	–	8	8
22 —	10	8	–	10	12	9	4	–	9	8			nil.		
29 —	10	8	–	10	12	9	4	–	9	8			nll.		
5 Nov.	10	8	–	10	12	9	4	–	9	8			nil.		
12 —	10	4	–	10	8	9	0	–	9	4			nil.		
19 —	10	4	–	10	8	9	0	–	9	4			nil.		
26 —	10	8	–	10	12	10	0	–	10	4	7	4	to	7	8
3 Dec.	10	8	–	10	12	10	0	–	10	4	7	4	–	7	8
10 —	10	8	–	11	0	10	0	–	10	8			nil.		
17 —	10	12	–	11	0	10	0	–	10	8			nil.		
24 —	10	12	–	11	0	10	4	–	10	8			nil.		
31 —	10	12	–	11	0	10	4	–	10	8			nil.		
1816:															
7 Jan.	10	8	–	11	0	10	0	–	10	8			nil.		
14 —	10	8	–	11	0	10	0	–	10	8			nil.		
21 —	10	8	–	11	0	10	0	–	10	8			nil.		
28 —	10	8	–	10	12	8	4	–	8	8			nil.		
4 Feb.	10	8	–	10	12	8	4	–	8	8			nil.		
11 —	10	4	–	10	8	9	12	–	10	0			nil.		
18 —	10	0	–	10	8	9	12	–	10	0			nil.		
25 —	10	0	–	10	8	9	12	–	10	0			nil.		
3 Mar.	10	0	–	10	8	9	12	–	10	0			nil.		
10 —	9	12	–	10	0	8	8	–	8	12	7	12	to	8	0
17 —	10	8	–	10	12	9	12	–	10	0	7	12	–	8	0
24 —	10	8	–	11	0	10	0	–	10	8	7	8	–	8	0
31 —	10	4	–	10	8	8	12	–	9	0	7	12	–	8	0
7 April	11	0	–	11	4	9	12	–	10	0	7	12	–	8	0
14 —	11	0	–	11	4	9	12	–	10	0	7	12	–	8	0
21 —	10	12	–	11	0	8	12	–	9	0	7	12	–	8	0
28 —	10	12	–	11	0	9	12	–	10	0	8	4	–	8	8
5 May	10	4	–	10	8	9	4	–	9	8	8	4	–	8	8
12 —	10	4	–	10	8	9	4	–	9	8			nil.		
19 —	10	4	–	10	8	9	4	–	9	8			nil.		
26 —	10	8	–	10	12	8	12	–	9	0			nil.		
2 June	10	8	–	10	12	8	12	–	9	0			nil.		
9 —	10	8	–	10	12	8	8	–	9	0	8	8		—	
16 —	10	8	–	10	12	7	12	–	8	0	8	8	to	8	12
23 —	10	8	–	10	12	7	12	–	8	0	8	8	–	8	12
30 —	10	12	–	11	0	10	4	–	10	8	8	4	–	8	8
7 July	10	12	–	11	0			nil.			8	4	–	8	8
14 —	10	4	–	10	8			nil.			8	4	–	8	8
21 —	10	0	–	10	8			nil.			8	4	–	8	8
28 —	10	0	–	10	8			nil.			8	4	–	8	8
4 Aug.	10	4	–	10	8	9	8	to	9	12	8	4	–	8	8
11 —	10	4	–	10	8			nil.			7	12	–	8	0
18 —	10	4	–	10	8			nil.			8	0	–	8	4
25 —	10	4	–	10	8			nil.			7	12	–	8	0

WEEK ending	Best Sort p' Maund, 82 lbs.				Second Sort, p' Maund, 82 lbs.				Date Tree, p' Maund, 82 lbs.			
1816:	SRs.	As.	SRs.	As.	SRs.	As.	SRs.	As.	SRs.	As.	SRs.	As.
1 Sep.	10	4 to	10	8	9	4 to	9	8		nil.		
8 —	10	4 –	10	8	9	4 –	9	8		nil.		
15 —	10	4 –	10	8	9	12 –	10	0	8	8 to	8	12
22 —	10	4 –	10	8	9	12 –	10	0	8	8 –	8	12
6 Oct.	10	4 –	10	8	9	12 –	10	0	8	8 –	8	12
13 —	10	4 –	10	8	10	0 –	10	4		nil.		
20 —	10	4 –	10	8	10	0 –	10	4		nil.		
27 —	10	4 –	10	8	9	12 –	10	0		nil.		
3 Nov.	10	4 –	10	8	9	4 –	9	8		nil.		
10 —	10	4 –	10	8	9	4 –	9	8		nil.		
17 —	10	0 –	10	4	9	8 –	9	12		nil.		
24 —	10	0 –	10	4	9	8 –	9	12		nil.		
1 Dec.	10	4 –	10	8	9	4 –	9	8		nil.		
8 —	10	0 –	10	4	9	4 –	9	8		nil.		
15 —	10	0 –	10	4	9	4 –	9	8		nil.		
22 —	10	4 –	10	8	9	12 –	10	0		nil.		
29 —	10	4 –	10	8	9	12 –	10	0		nil.		
1817:												
5 Jan.	10	0 –	10	4	9	8 –	9	12		nil.		
12 —	10	0 –	10	4	9	12 –	10	0		nil.		
19 —	10	0 –	10	4	9	12 –	10	0		nil.		
26 —	10	0 –	10	4	9	12 –	10	0		nil.		
2 Feb.	10	4 –	10	8	9	12 –	10	0		nil.		
9 —	10	8 –	10	12	10	0 –	10	4		nil.		
16 —	10	0 –	10	8	9	12 –	10	4		nil.		
23 —	10	12 –	11	0	10	0 –	10	4		nil.		
2 Mar.	10	12 –	11	0	10	0 –	10	4		nil.		
9 —	11	4 –	11	8	10	4 –	10	8		nil.		
16 —	10	8 –	10	12	9	8 –	9	12		nil.		
23 —	10	12 –	11	0	10	0 –	10	4		nil.		
30 —	10	12 –	11	0	10	0 –	10	4		nil.		
6 April	10	8 –	10	12	10	4 –	10	8		nil.		
13 —	10	12 –	11	0	10	0 –	10	4	9	0 to	9	4
20 —	10	12 –	11	0	10	4 –	10	8		nil.		
27 —	11	4 –	11	8	10	4 –	10	8	9	4 to	9	8
4 May	11	4 –	11	8	10	4 –	10	8	9	4 –	9	8
11 —	11	4 –	11	8	9	12 –	10	0		nil.		
18 —	11	4 –	11	8	9	12 –	10	0		nil.		
25 —	11	4 –	11	8	9	12 –	10	0		nil.		
1 June	11	4 –	11	8	9	12 –	10	0		nil.		
8 —	11	4 –	11	8	9	12 –	10	0		nil.		
15 —	11	4 –	11	8	8	12 –	9	0		nil.		
22 —	11	4 –	11	8	10	4 –	11	0	9	12 to	10	0
29 —	11	4 –	11	8	10	12 –	11	0	9	12 –	10	0
6 July	10	12 –	11	0	9	12 –	10	0	8	12 –	9	0
13 —	10	8 –	10	12	10	0 –	10	4	8	12 –	9	0
20 —	10	4 –	10	8	9	12 –	10	0	8	12 –	9	0
27 —	10	4 –	10	8	9	12 –	10	0		nil.		
3 Aug.	10	8 –	10	12	9	12 –	10	0	8	12 to	9	0
10 —	10	8 –	10	12	9	12 –	10	0	8	12 –	9	0
17 —	10	8 –	10	12	9	12 –	10	0	9	4 –	9	8
24 —	10	8 –	10	12	9	12 –	10	0	9	4 –	9	8
31 —	10	8 –	10	12	9	12 –	10	0	9	4 –	9	8
7 Sep.	10	4 –	10	8	9	4 –	9	8		nil.		
14 —	10	4 –	10	8	9	4 –	9	8		nil.		
21 —	10	8 –	10	12	10	0 –	10	4		nil.		
28 —	10	0 –	10	4		nil.			8	12 to	9	0
5 Oct.	10	4 –	10	8	9	12 to	10	0	8	12 –	9	0
12 —	10	4 –	10	8	9	12 –	10	0	8	12 –	9	0
19 —	10	4 –	10	8	9	12 –	10	0	8	12 –	9	0
26 —	10	0 –	10	4	9	8 –	9	12	8	12 –	9	0

WEEK ending	Best Sort, p'Maund, 82 lbs.				Second Sort, p' Maund, 82 lbs.				Date Tree, p' Maund, 82 lbs.			
1817:	SRs.	As.	SRs.	As.	SRs.	As.	SRs.	As.	SRs.	As.	SRs.	As.
2 Nov.	10	4 to	10	8	10	0 to	10	4	8	4 to	8	8
9 —	10	4 –	10	8	10	0 –	10	4	8	0 –	8	8
16 —	10	4 –	10	8	10	0 –	10	4	8	4 –	8	8
23 —	9	12 –	10	0	9	0 –	9	4		nil.		
30 —	9	12 –	10	0	9	0 –	9	4		nil.		
7 Dec.	10	0 –	10	4	9	8 –	9	12		nil.		
14 —	10	0 –	10	4	9	8 –	9	12		nil.		
21 —	10	4 –	10	8	8	12 –	9	0		nil.		
28 —	10	4 –	10	8	9	12 –	10	0		nil.		
1818:												
4 Jan.	9	12 –	10	0	9	9 –	9	4		nil.		
11 —	10	4 –	10	8	9	12 –	10	0		nil.		
18 —	10	4 –	10	8	9	12 –	10	0		nil.		
25 —	10	8 –	10	12	9	12 –	10	0		nil.		
1 Feb.	10	12 –	11	0	10	4 –	10	8		nil.		
8 —	10	12 –	11	0	10	4 –	10	8		nil.		
15 —	10	12 –	11	0	10	4 –	10	8		nil.		
22 —	10	12 –	11	0	9	12 –	10	0		nil.		
1 Mar.	10	12 –	11	0	9	8 –	9	12		nil.		
8 —	9	12 –	10	12	9	8 –	9	12		nil.		
15 —	11	4 –	11	8	9	4 –	9	8		nil.		
22 —	11	4 –	11	8	9	4 –	9	8		nil.		
29 —	11	4 –	11	8	9	4 –	9	8		nil.		
5 April	11	12 –	12	0	9	12 –	10	0		nil.		
12 —	11	12 –	12	0	9	12 –	10	0		nil.		
19 —	11	12 –	12	0	10	8 –	10	12	9	12 to	10	0
26 —	11	12 –	12	0	10	8 –	10	12	9	12 –	10	0
3 May	11	12 –	12	0	10	8 –	10	12	9	12 –	10	0
10 —	10	12 –	11	0	9	12 –	10	0	9	8 –	9	12
17 —	10	12 –	11	0	9	12 –	10	0	9	12 –	10	0
24 —	10	12 –	11	0	9	12 –	10	0	9	12 –	10	0
31 —	10	12 –	11	0	9	12 –	10	0	9	12 –	10	0
7 June	10	12 –	11	0	9	12 –	10	0	9	12 –	10	0
14 —	10	4 –	10	8	9	12 –	10	0	8	4 –	8	8
21 —	10	4 –	10	8	9	12 –	10	0	8	4 –	8	8
28 —	10	4 –	10	8	9	12 –	10	0	8	4 –	8	8
5 July	10	4 –	10	8	9	12 –	10	0	8	4 –	8	8
12 —	10	4 –	10	8	9	12 –	10	0	8	4 –	8	8
19 —	10	4 –	10	8	9	4 –	9	8		nil.		
26 —	10	4 –	10	8	9	4 –	9	8		nil.		
2 Aug.	10	4 –	10	8	9	4 –	9	8		nil.		
9 —	9	4 –	9	8	8	12 –	9	0		nil.		
16 —	9	4 –	9	8	8	12 –	9	0		nil.		
23 —	9	4 –	9	8	8	12 –	9	0	8	4 to	8	8
30 —	9	12 –	10	0	9	4 –	9	8	7	12 –	8	0
6 Sep.	9	8 –	9	12	8	12 –	9	0	8	0 –	8	4
13 —	9	12 –	10	0	9	0 –	9	4	7	12 –	8	0
20 —	9	12 –	10	0	8	12 –	9	0	8	4 –	8	8
27 —	9	12 –	10	0	8	12 –	9	0	8	4 –	8	8
4 Oct.	9	12 –	10	0	8	12 –	9	0	8	4 –	8	8
11 —	8	12 –	9	0	8	4 –	8	8	8	4 –	8	8
18 —	9	12 –	10	0	9	0 –	9	4		nil.		
25 —	9	12 –	10	0	9	4 –	9	8	8	4 to	8	8
1 Nov.	9	12 –	10	0	9	4 –	9	8	8	4 –	8	8
8 —	9	12 –	10	0	9	4 –	9	8	8	4 –	8	8
15 —	9	12 –	10	0	9	4 –	9	8	8	4 –	8	8
22 —	9	12 –	10	0	9	4 –	9	8	8	4 –	8	8
29 —	10	12 –	11	0	10	4 –	10	8		nil.		
6 Dec.	10	4 –	10	8	9	4 –	9	8		nil.		
13 —	10	8 –	11	0	9	12 –	10	0		nil.		
20 —	10	4 –	10	8	9	4 –	9	8		nil.		
27 —	10	12 –	11	0	9	12 –	10	0		nil.		

WEEK ending 1819:	Best Sort, p' Maund, 82 lbs.	Second Sort, p' Maund, 82 lbs.	Date Tree, p' Maund, 82 lbs.
	SRs. As. SRs. As.	SRs. As. SRs. As.	SRs. As. SRs. As.
3 Jan.	10 12 to 11 0	9 12 to 10 0	nil.
10 —	10 12 – 11 0	9 8 – 9 12	nil.
17 —	10 12 – 11 0	9 8 – 9 12	nil.
24 —	10 12 – 11 0	10 4 – 10 8	nil.
31 —	10 12 – 11 0	10 4 – 10 8	nil.
7 Feb.	10 12 – 11 0	10 4 – 10 8	nil.
14 —	10 12 – 11 0	9 12 – 10 0	nil.
21 —	10 12 – 11 0	9 12 – 10 0	nil.
28 —	11 4 – 11 8	10 4 – 10 8	nil.
7 March	10 12 – 11 0	10 4 – 10 8	nil.
14 —	10 12 – 11 0	10 4 – 10 8	nil.
21 —	12 8 – 12 12	11 4 – 11 8	nil.
28 —	11 12 – 12 0	11 0 – 11 4	nil.
4 April	11 12 – 12 0	11 0 – 11 4	nil.
11 —	10 12 – 11 0	10 4 – 10 8	nil.
18 —	10 12 – 11 0	10 4 – 10 8	nil.
25 —	10 12 – 11 0	9 12 – 10 0	nil.
2 May	10 12 – 11 0	9 4 – 9 8	8 12 to 9 0
9 —	10 12 – 11 0	10 4 – 10 8	9 4 – 9 8
16 —	10 12 – 11 0	10 4 – 10 8	9 4 – 9 8
23 —	10 12 – 11 0	10 4 – 10 8	9 4 – 9 8
30 —	10 4 – 10 8	9 12 – 10 0	8 4 – 8 8
6 June	10 4 – 10 8	9 12 – 10 0	8 4 – 8 8
13 —	10 12 – 11 0	9 12 – 10 0	8 12 – 9 0
20 —	11 0 – 11 4	9 12 – 10 0	8 12 – 9 0
27 —	11 0 – 11 4	9 12 – 10 0	8 12 – 9 0
4 July	10 8 – 10 12	9 12 – 10 0	9 0 – 9 4
11 —	10 8 – 10 12	10 0 – 10 4	8 12 – 9 0
18 —	10 8 – 10 12	9 12 – 10 0	8 4 – 8 8
25 —	10 4 – 10 8	10 0 – 10 4	9 0 – 9 4
1 Aug.	10 4 – 10 8	10 0 – 10 4	9 0 – 9 4
8 —	10 4 – 10 8	10 0 – 10 4	9 0 – 9 4
15 —	11 0 – 11 4	10 8 – 10 12	9 4 – 9 8
22 —	11 4 – 11 8	10 4 – 10 8	nil.
29 —	10 12 – 11 0	10 0 – 10 4	nil.
5 Sept.	10 12 – 11 0	10 4 – 10 8	nil.
12 —	10 12 – 11 0	10 0 – 10 4	nil.
19 —	10 12 – 11 0	10 0 – 10 4	nil.
3 Oct.	10 12 – 11 0	10 4 – 10 8	nil.
10 —	11 4 – 11 8	10 8 – 10 12	nil.
17 —	10 12 – 11 0	10 4 – 10 8	7 12 to 8 0
24 —	10 12 – 11 0	10 4 – 10 8	7 12 – 8 0
31 —	11 0 – 11 4	10 4 – 10 8	nil.
7 Nov.	11 0 – 11 4	10 4 – 10 8	nil.
14 —	11 12 – 12 0	11 0 – 11 4	nil.
21 —	11 4 – 11 8	10 4 – 10 8	nil.
28 —	12 4 – 12 8	11 4 – 11 8	nil.
5 Dec.	12 4 – 12 8	11 4 – 11 8	8 0 to 8 4
12 —	11 4 – 11 8	10 8 – 10 12	9 12 – 10 0
19 —	11 4 – 11 8	10 8 – 10 12	9 12 – 10 0
26 —	11 4 – 11 8	10 8 – 10 12	9 12 – 10 0
1820:			
2 Jan.	11 4 – 11 8	10 8 – 10 12	9 12 – 10 0
9 —	11 8 – 11 12	10 4 – 10 8	10 0 – 10 4
16 —	11 8 – 11 12	10 4 – 10 8	10 0 – 10 4
23 —	11 8 – 11 12	10 4 – 10 8	10 0 – 10 4
30 —	11 4 – 11 8	10 4 – 10 8	9 4 – 9 8
6 Feb.	9 12 – 10 0	9 0 – 9 4	7 12 – 8 0
13 —	10 8 – 10 12	9 4 – 9 8	8 4 – 8 8
20 —	9 12 – 10 0	8 12 – 9 0	7 12 – 8 0
27 —	9 12 – 10 0	8 12 – 9 0	7 12 – 8 0

WEEK ending 1820:	Best Sort, p' Maund, 82 lbs.	Second Sort, p' Maund, 82 lbs.	Date Tree, p' Maund, 82 lbs.
	SRs. As. SRs. As.	SRs. As. SRs. As.	SRs. As. SRs. As.
5 March	9 12 to 10 0	8 12 to 9 0	7 12 to 8 0
12 —	8 12 – 9 0	7 12 – 8 0	7 4 – 7 8
19 —	9 12 – 10 0	8 12 – 9 0	7 12 – 8 0
26 —	9 12 – 10 0	9 0 – 9 4	7 12 – 8 0
2 April	8 4 – 8 8	7 4 – 7 8	6 4 – 6 8
9 —	8 4 – 8 8	7 4 – 7 8	6 4 – 6 8
16 —	8 4 – 8 8	7 4 – 7 8	6 4 – 6 8
23 —	8 4 – 8 8	7 4 – 7 8	6 4 – 6 8
30 —	10 12 – 11 0	9 12 – 10 0	8 8 – 8 12
7 May	10 12 – 11 0	9 12 – 10 0	8 4 – 8 8
14 —	11 4 – 11 8	10 4 – 10 8	8 12 – 9 0
21 —	11 4 – 11 8	10 4 – 10 8	8 12 – 9 0
28 —	10 12 – 11 0	9 12 – 10 0	8 12 – 9 0
4 June	10 4 – 10 8	9 4 – 9 8	8 4 – 8 8
11 —	10 4 – 10 8	9 4 – 9 8	8 4 – 8 8
18 —	10 4 – 10 8	9 4 – 9 8	8 4 – 8 8
25 —	10 4 – 10 8	9 4 – 9 8	8 4 – 8 8
2 July	10 4 – 10 8	9 4 – 9 8	8 4 – 8 8
9 —	9 12 – 10 0	8 4 – 8 8	6 12 – 7 0
16 —	10 12 – 11 0	9 4 – 9 8	7 7 – 7 8
23 —	10 4 – 10 8	9 12 – 10 0	8 12 – 9 0
30 —	10 4 – 10 8	9 4 – 9 8	8 12 – 9 0
6 Aug.	9 12 – 10 0	8 12 – 9 0	7 12 – 8 0
13 —	10 0 – 10 4	9 0 – 9 4	7 4 – 7 8
20 —	9 12 – 10 0	9 0 – 9 4	7 4 – 7 8
27 —	10 0 – 10 4	9 4 – 9 8	7 8 – 7 12
3 Sept.	10 12 – 11 0	9 12 – 10 0	7 12 – 8 0
10 —	10 12 – 11 0	9 12 – 10 0	7 12 – 8 0
17 —	10 4 – 10 8	9 4 – 9 8	8 4 – 8 8
24 —	10 4 – 10 8	9 4 – 9 8	8 4 – 8 8
1 Oct.	10 4 – 10 8	9 4 – 9 8	8 4 – 8 8
8 —	10 4 – 10 8	9 4 – 9 8	8 6 – 8 10
22 —	10 4 – 10 8	9 4 – 9 8	7 12 – 8 0
29 —	9 12 – 10 0	9 0 – 9 4	6 8 – 6 12
5 Nov.	9 12 – 10 0	9 0 – 9 4	6 8 – 6 12
12 —	9 12 – 10 0	9 0 – 9 4	6 8 – 6 12
19 —	9 12 – 10 0	9 0 – 9 4	6 8 – 6 12
26 —	10 4 – 10 8	9 4 – 9 8	7 4 – 7 8
3 Dec.	10 4 – 10 8	9 4 – 9 8	5 8 – 5 12
10 —	11 4 – 11 8	10 4 – 10 8	6 12 – 7 0
17 —	10 12 – 11 0	9 4 – 9 8	6 12 – 7 0
24 —	10 12 – 11 0	9 4 – 9 8	6 12 – 7 0
31 —	10 12 – 11 0	9 4 – 9 8	6 12 – 7 0
1821:			
7 Jan.	10 12 – 11 0	9 4 – 9 8	6 12 – 7 0
14 —	10 12 – 11 0	9 4 – 9 8	6 12 – 7 0
21 —	10 12 – 11 0	9 12 – 10 0	6 12 – 7 0
28 —	10 12 – 11 0	9 12 – 10 0	6 12 – 7 0
4 Feb.	10 12 – 11 0	9 12 – 10 0	6 12 – 7 0
11 —	10 12 – 11 0	9 12 – 10 0	6 12 – 7 0
18 —	10 12 – 11 0	9 12 – 10 0	6 12 – 7 0
25 —	10 12 – 11 0	9 12 – 10 0	6 12 – 7 0
4 March	10 12 – 11 0	9 12 – 10 0	6 12 – 7 0
11 —	10 12 – 11 0	9 12 – 10 0	6 12 – 7 0
18 —	10 12 – 11 0	9 12 – 10 0	6 8 – 6 12
25 —	10 12 – 11 0	9 12 – 10 0	6 8 – 6 12
1 April	10 12 – 11 0	9 12 – 10 0	6 12 – 7 0
8 —	10 12 – 11 0	9 12 – 10 0	6 8 – 6 12
15 —	10 4 – 10 8	9 4 – 9 8	6 12 – 7 0
22 —	10 4 – 10 8	9 4 – 9 8	6 12 – 7 0
29 —	10 4 – 10 8	9 4 – 9 8	6 12 – 7 0

WEEK ending 1821:	Best Sort, p' Maund, 82 lbs.				Second Sort, p' Maund, 82 lbs.				Date Tree, p' Maund, 82 lbs.			
	SRs.	As.	SRs.	As.	SRs.	As.	SRs.	As.	SRs.	As.	SRs.	As.
6 May	10	0 to	10	4	9	0 to	9	4	6	12 to	7	0
13 —	10	4 –	10	8	9	4 –	9	8	6	8 –	6	12
20 —	10	4 –	10	8	9	4 –	9	8	6	8 –	6	12
27 —	10	4 –	10	8	9	4 –	9	8	6	12 –	7	0
3 June	10	4 –	10	8	9	4 –	9	8	6	12 –	7	0
10 —	10	4 –	10	8	9	4 –	9	8	6	8 –	6	12
17 —	10	4 –	10	8	9	4 –	9	8	7	12 –	8	0
24 —	10	4 –	10	8	9	4 –	9	8	8	4 –	8	8
1 July	10	4 –	10	8	9	4 –	9	8	7	4 –	7	8
8 —	10	4 –	10	8	9	4 –	9	8	6	12 –	7	0
15 —	10	4 –	10	8	9	4 –	9	8	6	12 –	7	0
22 —	10	4 –	10	8	9	4 –	9	8	6	12 –	7	0
29 —	10	4 –	10	8	9	4 –	9	8	6	12 –	7	0
5 Aug.	10	4 –	10	8	9	4 –	9	8	6	12 –	7	0
12 —	10	4 –	10	8	9	4 –	9	8	6	12 –	7	0
19 —	10	4 –	10	8	9	4 –	9	8	6	12 –	7	0
26 —	10	4 –	10	8	9	4 –	9	8	6	8 –	6	12

WEEK ending 1821:	Best Sort, p' Maund, 82 lbs.				Second Sort, p' Maund, 82 lbs.				Date Tree, p' Maund, 82 lbs.			
	SRs.	As.	SRs.	As.	SRs.	As.	SRs.	As.	SRs.	As.	SRs.	As.
2 Sept.	10	4 to	10	8	9	4 to	9	8	6	8 to	6	12
9 —	10	4 –	10	8	9	4 –	9	8	6	8 –	6	12
16 —	10	4 –	10	8	8	12 –	9	0	6	8 –	6	12
23 —	10	4 –	10	8	9	4 –	9	8	6	8 –	6	12
7 Oct.	10	4 –	10	8	9	4 –	9	8	6	8 –	6	12
14 —	10	4 –	10	8	8	12 –	9	0	6	8 –	6	12
21 —	10	4 –	10	8	9	4 –	9	8	6	12 –	7	0
28 —	10	4 –	10	8	9	4 –	9	8	6	12 –	7	0
4 Nov.	10	4 –	10	8	9	4 –	9	8	6	12 –	7	0
11 —	10	4 –	10	8	9	4 –	9	8	8	4 –	8	8
18 —	10	4 –	10	8	9	8 –	9	12	6	8 –	6	12
25 —	10	0 –	10	4	9	8 –	9	12	7	0 –	7	4
2 Dec.	10	4 –	10	8	9	4 –	9	8	6	12 –	7	0
9 —	10	4 –	10	8	9	4 –	9	10	7	4 –	7	10
16 —	10	4 –	10	8	9	4 –	9	10	7	4 –	7	10
23 —	10	4 –	10	8	9	4 –	9	8	6	12 –	7	0

B.

CALCUTTA MARKET PRICE OF CHEENEE

Per Bazar Maund.

(Calculated in Sterling Money, at 2 *s.* per Current Rupee.)

——	Best Sort, p' Maund, 82 lbs.				Second Sort, p' Maund, 82 lbs.				Date Tree, p' Maund, 82 lbs.			
1812:	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
5 Jan.	15	11 to	17	1	15	1 to	15	7	13	4 to	13	11
2 Feb.	16	2 –	16	9	15	1 –	16	2	13	4 –	13	11
1 March	16	2 –	17	4	14	6 –	15	1	12	9 –	13	4
6 April	17	4 –	17	11	15	1 –	15	7	13	4 –	13	11
17 May	20	3 –	20	10	19	1 –	19	8	17	11 –	18	6
1 June	20	3 –	21	5	18	6 –	19	1	16	9 –	17	4
4 July	19	1 –	19	8		nil.			15	7 –	16	2
2 Aug.	18	6 –	19	1		nil.			15	7 –	16	2
6 Sept.	18	6 –	19	1	17	4 to	17	11	15	7 –	16	2
4 Oct.	17	11 –	18	6	15	7 –	16	2	15	1 –	15	7
1 Nov.	20	10 –	21	5	19	8 –	20	3	17	11 –	18	6
6 Dec.	21	5 –	22	0	19	1 –	19	8	16	2 –	16	9
1813:												
3 Jan.	19	1 –	19	8	16	9 –	17	4	15	1 –	15	7
7 Feb.	22	7 –	23	2	20	3 –	20	10		nil.		
7 March	22	7 –	23	2	20	3 –	20	10		nil.		
4 April	22	0 –	22	7	19	1 –	19	8	18	6 to	19	1
2 May	21	5 –	22	0	19	1 –	19	8	17	4 –	17	11
6 June	20	10 –	21	5	19	1 –	19	8	17	11 –	18	6
4 July	20	3 –	20	10	16	9 –	17	4	15	7 –	16	2
1 Aug.	19	1 –	19	8	16	9 –	17	4	15	1 –	15	7
5 Sept.	19	8 –	20	3	16	9 –	17	4	15	7 –	16	2
10 Oct.	22	7 –	23	2	20	10 –	21	5	19	8 –	20	3
14 Nov.	20	10 –	21	5	19	8 –	20	3	17	11 –	18	6
5 Dec.	20	10 –	21	5	19	8 –	20	3	17	11 –	18	6
1814:												
2 Jan.	20	3 –	20	10	19	1 –	19	8	17	4 –	17	11
6 Feb.	20	3 –	20	10	17	11 –	18	6	16	9 –	17	4
6 March	20	3 –	20	10	17	4 –	17	11	14	6 –	15	1
3 April		nil.				nil.			20	3 –	20	10
8 May	22	7 to	23	2	21	5 to	22	0	19	1 –	19	8
5 June	22	0 –	22	7	19	1 –	19	8	17	11 –	18	6

——	Best Sort, p' Maund, 82 lbs.				Second Sort, p' Maund, 82 lbs.				Date Tree, p' Maund, 82 lbs.			
1814:	s.	d	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
3 July	20	3 to	20	10	19	1 to	19	8	16	9 to	17	4
7 Aug.	20	3 –	22	0	18	6 –	19	8	17	4 –	17	11
4 Sept.	20	10 –	21	5	19	8 –	20	3	17	4 –	17	11
2 Oct.	20	10 –	21	5	19	1 –	19	8		nil.		
6 Nov.	21	5 –	22	0	19	1 –	19	8		nil.		
4 Dec.	19	8 –	20	3	17	4 –	17	11	15	7 to	16	2
1815:												
1 Jan.	19	1 –	19	8		nil.			16	9 –	17	4
5 Feb.	20	3 –	20	10	17	11 to	18	6	15	7 –	16	2
5 March	20	3 –	20	10	17	4 –	17	11	15	1 –	15	7
2 April	19	1 –	19	8	16	9 –	17	4	13	11 –	14	6
21 May	22	0 –	22	7	15	1 –	16	9	17	4 –	17	11
11 June	22	7 –	23	2	15	7 –	16	2	17	11 –	18	6
2 July	22	7 –	23	2	15	7 –	16	2	17	4 –	17	11
6 Aug.	23	9 –	24	4	22	7 –	23	2		nil.		
3 Sept.	23	2 –	23	9	21	5 –	22	0	20	3 to	20	10
1 Oct.	23	9 –	24	4	22	0 –	22	7	19	1 –	19	8
5 Nov.	24	4 –	24	11	21	5 –	22	0		nil.		
3 Dec.	24	4 –	24	11	23	2 –	23	9	16	9 to	17	4
1816:												
7 Jan.	24	4 –	25	6	23	2 –	24	4		nil.		
4 Feb.	24	4 –	24	11	19	1 –	19	8		nil.		
3 March	23	2 –	24	4	22	7 –	23	2		nil.		
7 April	25	6 –	26	1	22	7 –	23	2	17	11 to	18	6
5 May	23	9 –	24	4	21	5 –	22	0	19	1 –	19	8
16 June	24	4 –	24	11	17	11 –	18	6	19	8 –	20	3
7 July	24	11 –	25	6		nil.			19	1 –	19	8
4 Aug.	23	9 –	24	4	22	0 to	22	7	19	1 –	19	8
15 Sept.	23	9 –	24	4	22	7 –	23	2	19	8 –	20	3
6 Oct.	23	9 –	24	4	22	7 –	23	2	19	8 –	20	3
3 Nov.	23	9 –	24	4	21	5 –	22	0		nil.		
1 Dec.	23	9 –	24	4	21	5 –	22	0		nil.		

	Best Sort, p' Maund, 82 lbs.		Second Sort, p' Maund, 82 lbs.		Date Tree, p' Maund, 82 lbs.	
1817:	s. d. s. d.		s. d. s. d.		s. d. s. d.	
5 Jan.	23 2 to 23 9		22 0 to 22 7		nil.	
2 Feb.	23 9 – 24 4		22 7 – 23 2		nil.	
2 March	24 11 – 25 6		23 2 – 23 9		nil.	
13 April	24 11 – 25 6		23 2 – 23 9		20 10 to 21 5	
4 May	26 1 – 26 8		23 9 – 24 4		21 5 – 22 0	
22 June	26 1 – 26 8		23 9 – 25 6		22 7 – 23 2	
13 July	24 4 – 24 11		23 2 – 23 9		20 3 – 20 10	
3 Aug.	24 4 – 24 11		22 7 – 23 2		20 3 – 20 10	
7 Sept.	23 9 – 24 4		21 5 – 22 0		nil.	
5 Oct.	23 9 – 24 4		22 7 – 23 2		20 3 to 20 10	
2 Nov.	23 9 – 24 4		23 2 – 23 9		19 1 – 19 8	
7 Dec.	23 2 – 23 9		22 0 – 22 7		nil.	
1818:						
4 Jan.	22 7 – 23 2		20 10 – 21 5		nil.	
1 Feb.	24 11 – 25 6		23 9 – 24 4		nil.	
1 March	24 11 – 25 6		22 0 – 22 7		nil.	
19 April	27 3 – 27 10		24 4 – 24 11		22 7 to 23 2	
3 May	27 3 – 27 10		24 4 – 24 11		22 7 – 23 2	
7 June	24 11 – 25 6		22 7 – 23 2		22 7 – 23 2	
5 July	23 9 – 24 4		22 7 – 23 2		19 1 – 19 8	
2 Aug.	23 9 – 24 4		21 5 – 22 0		nil.	
6 Sept.	22 0 – 22 7		20 3 – 20 10		18 6 to 19 1	
4 Oct.	22 7 – 23 2		20 3 – 20 10		19 1 – 19 8	
1 Nov.	22 7 – 23 2		21 5 – 22 0		19 1 – 19 8	
6 Dec.	23 9 – 24 4		21 5 – 22 0		nil.	
1819:						
3 Jan.	24 11 – 25 6		22 7 – 23 2		nil.	
7 Feb.	24 11 – 25 6		23 9 – 24 4		nil.	
7 March	24 11 – 25 6		23 9 – 24 4		nil.	
4 April	27 3 – 27 10		25 6 – 26 1		nil.	
2 May	24 11 – 25 6		21 5 – 22 0		20 3 to 20 10	
6 June	23 9 – 24 4		22 7 – 23 2		19 1 – 19 8	

	Best Sort, p' Maund, 82 lbs.		Second Sort, p' Maund, 82 lbs.		Date Tree, p' Maund, 82 lbs.	
1819:	s. d. s. d.		s. d. s. d.		s. d. s. d.	
4 July	24 4 to 24 11		22 7 to 23 2		20 10 to 21 5	
1 Aug.	23 9 – 24 4		23 2 – 23 9		20 10 – 21 5	
5 Sept.	24 11 – 25 6		23 9 – 24 4		nil.	
17 Oct.	24 11 – 25 6		23 9 – 24 4		17 11 to 18 6	
7 Nov.	25 6 – 26 1		23 9 – 24 4		nil.	
5 Dec.	28 5 – 29 0		26 1 – 26 8		18 6 to 19 1	
1820:						
2 Jan.	26 1 – 26 8		24 4 – 24 11		22 7 – 23 2	
6 Feb.	22 7 – 23 2		20 10 – 21 5		17 11 – 18 6	
5 March	22 7 – 23 2		20 3 – 20 10		17 11 – 18 6	
2 April	19 1 – 19 8		16 9 – 17 4		14 6 – 15 1	
7 May	24 11 – 25 6		22 7 – 23 2		19 1 – 19 8	
4 June	23 9 – 24 4		21 5 – 22 0		19 1 – 19 8	
2 July	23 9 – 24 4		21 5 – 22 0		19 1 – 19 8	
6 Aug.	22 7 – 23 2		20 3 – 20 10		17 11 – 18 6	
3 Sept.	24 11 – 25 6		22 7 – 23 2		17 11 – 18 6	
1 Oct.	23 9 – 24 4		21 5 – 22 0		19 1 – 19 8	
5 Nov.	22 7 – 23 2		20 10 – 21 5		15 1 – 15 7	
3 Dec.	23 9 – 24 4		21 5 – 22 0		12 9 – 13 4	
1821:						
7 Jan.	24 11 – 25 6		21 5 – 22 0		15 7 – 16 2	
4 Feb.	24 11 – 25 6		22 7 – 23 2		15 7 – 16 2	
4 March	24 11 – 25 6		22 7 – 23 2		15 7 – 16 2	
1 April	24 11 – 25 6		22 7 – 23 2		15 7 – 16 2	
6 May	23 2 – 23 9		20 10 – 21 5		15 7 – 16 2	
3 June	23 9 – 24 4		21 5 – 22 0		15 7 – 16 2	
1 July	23 9 – 24 4		21 5 – 22 0		16 9 – 17 4	
5 Aug.	23 9 – 24 4		21 5 – 22 0		15 7 – 16 2	
2 Sept.	23 9 – 24 4		21 5 – 22 0		15 1 – 15 7	
7 Oct.	23 9 – 24 4		21 5 – 22 0		15 1 – 15 7	
4 Nov.	23 9 – 24 4		21 5 – 22 0		15 7 – 16 2	
2 Dec.	23 9 – 24 4		21 5 – 22 0		15 7 – 16 2	

C.

CALCUTTA MARKET PRICE OF CHEENEE,

Per Cwt.

(Calculated in Sterling Money, at 2 *s.* per Current Rupee.)

	Best Sort, p' Cwt.		Second Sort, p' Cwt.		Date Tree, p' Cwt.	
1812:	s. d. s. d.		s. d. s. d.		s. d. s. d.	
5 Jan.	21 9 to 23 4		20 7 to 21 4		18 2 to 19 0	
5 Feb.	22 2 – 22 11		20 7 – 22 2		18 2 – 19 0	
1 March	22 2 – 23 9		19 9 – 20 7		17 5 – 18 2	
6 April	23 9 – 24 6		20 7 – 21 4		18 2 – 19 0	
17 May	27 8 – 28 6		26 1 – 26 11		24 6 – 25 4	
1 June	27 8 – 29 3		25 4 – 26 1		22 11 – 23 9	
4 July	26 1 – 26 11		nil.		21 4 – 22 2	
2 Aug.	25 4 – 26 1		nil.		21 4 – 22 2	
6 Sept.	25 4 – 26 1		23 9 to 24 6		21 4 – 22 2	
4 Oct.	24 6 – 25 4		21 4 – 22 2		20 7 – 21 4	
1 Nov.	28 6 – 29 3		26 11 – 27 8		24 6 – 25 4	
6 Dec.	29 3 – 30 1		26 1 – 26 11		22 2 – 22 11	
1813:						
3 Jan.	26 1 – 26 11		22 11 – 23 9		20 7 – 21 4	
7 Feb.	30 10 – 31 8		27 8 – 28 6		nil.	
7 March	30 10 – 31 8		27 8 – 28 6		nil.	
4 April	30 1 – 30 10		26 1 – 26 11		25 4 to 26 1	
2 May	29 3 – 30 1		26 1 – 26 11		23 9 – 24 6	
6 June	28 6 – 29 3		26 1 – 26 11		24 6 – 25 4	

	Best Sort, p' Cwt.		Second Sort, p' Cwt.		Date Tree, p' Cwt.	
1813:	s. d. s. d.		s. d. s. d.		s. d. s. d.	
4 July	27 8 to 28 6		22 11 to 23 9		21 4 to 22 2	
1 Aug.	26 1 – 26 11		22 11 – 23 9		20 7 – 21 4	
5 Sept.	26 11 – 27 8		22 11 – 23 9		21 4 – 22 2	
10 Oct.	30 10 – 31 8		28 6 – 29 3		26 11 – 27 8	
14 Nov.	28 6 – 29 3		26 11 – 27 8		24 6 – 25 4	
5 Dec.	28 6 – 29 3		26 11 – 27 8		24 6 – 25 4	
1814;						
2 Jan.	27 8 – 28 6		26 1 – 26 11		23 9 – 24 6	
6 Feb.	27 8 – 28 6		24 6 – 25 4		22 11 – 23 9	
6 March	27 8 – 28 6		23 9 – 24 6		19 9 – 20 7	
3 April	nil.		nil.		27 8 – 28 6	
8 May	30 10 to 31 8		29 3 to 30 1		26 1 – 26 11	
5 June	30 1 – 30 10		26 1 – 26 11		24 6 – 25 4	
3 July	27 8 – 28 6		26 1 – 26 11		22 11 – 23 9	
7 Aug.	27 8 – 30 1		25 4 – 26 11		23 9 – 24 6	
4 Sept.	28 6 – 29 3		26 11 – 27 8		23 9 – 24 6	
2 Oct.	28 6 – 29 3		26 1 – 26 11		nil.	
6 Nov.	29 3 – 30 1		26 1 – 26 11		nil.	
4 Dec.	26 11 – 27 8		23 9 – 24 6		21 4 to 22 2	

	Best Sort, p' Cwt.		Second Sort, p' Cwt.		Date Tree, p' Cwt.	
1815:	s. d. s. d.		s. d. s. d.		s. d. s. d.	
1 Jan.	26 1 to 26 11		nil.		22 11 to 23 9	
5 Feb.	27 8 – 28 6		24 6 to 25 4		21 4 – 22 2	
5 March	27 8 – 28 6		23 9 – 24 6		20 7 – 21 4	
2 April	26 1 – 26 11		22 11 – 23 9		19 – – 19 9	
21 May	30 1 – 30 10		20 7 – 22 11		23 9 – 24 6	
11 June	30 10 – 31 8		21 4 – 22 2		24 6 – 25 4	
2 July	30 10 – 31 8		21 4 – 22 2		23 9 – 24 6	
6 Aug.	32 5 – 33 3		30 10 – 31 8		nil.	
3 Sept.	31 8 – 32 5		29 3 – 30 1		27 8 to 28 6	
1 Oct.	32 5 – 33 3		30 1 – 30 10		26 1 – 26 11	
5 Nov.	33 3 – 34 0		29 3 – 30 1		nil.	
3 Dec.	33 3 – 34 0		31 8 – 32 5		22 11 to 23 9	
1816:						
7 Jan.	33 3 – 34 10		31 8 – 33 3		nil.	
4 Feb.	33 3 – 34 0		26 1 – 26 11		nil.	
3 March	31 8 – 33 3		30 10 – 31 8		nil.	
7 April	34 10 – 35 7		30 10 – 31 8		24 6 to 25 4	
5 May	32 5 – 33 3		29 3 – 30 1		26 1 – 26 11	
16 June	33 3 – 34 0		24 6 – 25 4		26 11 – 27 8	
7 July	34 0 – 34 10		nil.		26 1 – 26 11	
4 Aug.	32 5 – 33 3		30 1 to 30 10		26 1 – 26 11	
15 Sept.	32 5 – 33 3		30 10 – 31 8		26 11 – 27 8	
6 Oct.	32 5 – 33 3		30 10 – 31 8		26 11 – 27 8	
3 Nov.	32 5 – 33 3		29 3 – 30 1		nil.	
1 Dec.	32 5 – 33 3		29 3 – 30 1		nil.	
1817:						
5 Jan.	31 8 – 32 5		30 1 – 30 10		nil.	
2 Feb.	32 5 – 33 3		30 10 – 31 8		nil.	
2 March	34 0 – 34 10		31 8 – 32 5		nil.	
13 April	34 0 – 34 10		31 8 – 32 5		28 6 to 29 3	
4 May	35 7 – 36 5		32 5 – 33 3		29 3 – 30 1	
22 June	35 7 – 36 5		32 5 – 34 10		30 10 – 31 8	
13 July	33 3 – 34 0		31 8 – 32 5		27 8 – 28 6	
3 Aug.	33 3 – 34 0		30 10 – 31 8		27 8 – 28 6	
7 Sept.	32 5 – 33 3		29 3 – 30 1		nil.	
5 Oct.	32 5 – 33 3		30 10 – 31 8		27 8 to 28 6	
2 Nov.	32 5 – 33 3		31 8 – 32 5		26 1 – 26 11	
7 Dec.	31 8 – 32 5		30 1 – 30 10		nil.	
1818:						
4 Jan.	30 10 – 31 8		28 6 – 29 3		nil.	
1 Feb.	34 0 – 34 10		32 5 – 33 3		nil.	
1 March	34 0 – 34 10		30 1 – 30 10		nil.	
19 April	37 2 – 38 0		33 3 – 34 0		30 10 to 31 8	
3 May	37 2 – 38 0		33 3 – 34 0		30 10 – 31 8	
7 June	34 0 – 34 10		30 10 – 31 8		30 10 – 31 8	

	Best Sort, p' Cwt.		Second Sort, p' Cwt.		Date Tree, p' Cwt.	
1818:	s. d. s. d.		s. d. s. d.		s. d. s. d.	
5 July	32 5 to 33 3		30 10 to 31 8		26 1 to 26 11	
2 Aug.	32 5 – 33 3		29 3 – 30 1		nil.	
6 Sept.	30 1 – 30 10		27 8 – 28 6		25 4 to 26 1	
4 Oct.	30 10 – 31 8		27 8 – 28 6		26 1 – 26 11	
1 Nov.	30 10 – 31 8		29 3 – 30 1		26 1 – 26 11	
6 Dec.	32 5 – 33 3		29 3 – 30 1		nil.	
1819:						
3 Jan.	34 0 – 34 10		30 10 – 31 8		nil.	
7 Feb.	34 0 – 34 10		32 5 – 33 3		nil.	
7 March	34 0 – 34 10		32 5 – 33 3		nil.	
4 April	37 2 – 38 0		34 10 – 35 7		nil.	
2 May	34 0 – 34 10		29 3 – 30 1		27 8 to 28 6	
6 June	32 5 – 33 3		30 10 – 31 8		26 1 – 26 11	
4 July	33 3 – 34 0		30 10 – 31 8		28 6 – 29 3	
1 Aug.	32 5 – 33 3		31 8 – 32 5		28 6 – 29 3	
5 Sept.	34 0 – 34 10		32 5 – 33 3		nil.	
17 Oct.	34 0 – 34 10		32 5 – 33 3		24 6 to 25 4	
7 Nov.	34 10 – 35 7		32 5 – 33 3		nil.	
5 Dec.	38 9 – 39 7		35 7 – 36 5		25 4 to 26 1	
1820:						
2 Jan.	35 7 – 36 5		33 3 – 34 0		30 10 – 31 8	
6 Feb.	30 10 – 31 8		28 6 – 29 3		24 6 – 25 4	
5 March	30 10 – 31 8		27 8 – 28 6		24 6 – 25 4	
2 April	26 1 – 26 11		21 11 – 23 9		19 9 – 20 7	
7 May	34 0 – 34 10		30 10 – 31 8		26 1 – 26 11	
4 June	32 5 – 33 3		29 3 – 30 1		26 1 – 26 11	
2 July	32 5 – 33 3		29 3 – 30 1		26 1 – 26 11	
6 Aug.	30 10 – 31 8		27 8 – 28 6		24 6 – 25 4	
3 Sept.	34 0 – 34 10		30 10 – 31 8		24 6 – 25 4	
1 Oct.	32 5 – 33 3		29 3 – 30 1		26 1 – 26 11	
5 Nov.	30 10 – 31 8		28 6 – 29 3		20 7 – 21 4	
3 Dec.	32 5 – 33 3		29 3 – 30 1		17 5 – 18 2	
1821:						
7 Jan.	34 0 – 34 10		29 3 – 30 1		21 4 – 22 2	
4 Feb.	34 0 – 34 10		30 10 – 31 8		21 4 – 22 2	
4 March	34 0 – 34 10		30 10 – 31 8		21 4 – 22 2	
1 April	34 0 – 34 10		30 10 – 31 8		21 4 – 22 2	
6 May	31 8 – 32 5		28 6 – 29 3		21 4 – 22 2	
3 June	32 5 – 33 3		29 3 – 30 1		21 4 – 22 2	
1 July	32 5 – 33 3		29 3 – 30 1		22 11 – 23 9	
5 Aug.	32 5 – 33 3		29 3 – 30 1		21 4 – 22 2	
2 Sept.	32 5 – 33 3		29 3 – 30 1		20 7 – 21 4	
7 Oct.	32 5 – 33 3		29 3 – 30 1		20 7 – 21 4	
4 Nov.	32 5 – 33 3		29 3 – 30 1		21 4 – 22 2	
2 Dec.	32 5 – 33 3		29 3 – 30 1		21 4 – 22 2	

EXTRACTS from the Reports on the External Commerce of Bengal, exclusive of the Trade on account of the East India Company.

Report for 1795–6.

THE piece goods and sugar exported from Bengal to Copenhagen, produce a handsome profit, in consequence of the favourable exchange on England, which for some time has been rix dollars $4\frac{46}{96}$ shgs. whereas the par is considered to be about 6 rix dollars per £ sterling. External Commerce of Bengal.

Report for 1796–7.

Par. 18.—In 1787, only 8,925 maunds of sugar were exported, but in 1796–7, 193,947 maunds were shipped from the port of Calcutta.

18.—It is presumed, that at the expiration of five years, at least 40,000 tons of sugar per annum might be manufactured in the Company's provinces, either for the Company's investment, or for private trade. If 40 maunds of sugar can be obtained from the canes on 10 begas of ground, and the rent of lands proper for the growth thereof is 1 R. 8 As. more than for the cultivation of rice; the surplus revenue to the Honourable Company would be six lacks of rupees per annum, exclusive of the duty on exportation on the proportion shipped in private trade.

19.—The manufacture of rum for exportation, has also increased in the following proportions, viz.

In 1777	3,500 gallons were exported	to Bombay.
1787	19,300	to Madras.
1796–7	90,026	to Hamburgh and America.

The demand for rum, as an article of export trade is progressively increasing.

Report for 1797–8.

Par. 13.—The quantity of sugar exported from Calcutta and Serampore, in 1797–8, was mds. 160,000. If the same had been produced on the Island of Jamacia, the capital sum of one million seventy-one thousand four hundred and twenty-eight pounds sterling (or, say in even figures 1,000,000) must have been sunk on the first outset, exclusive ot he additional annual sum of seventy-six thousand pounds required for the manufacture, which is thirty thousand pounds sterling more than the value of the rum produced, agreeably to the data laid down by Mr. B. Edwards.

14.—The average cost to the exporter from Bengal, of the 160,000 mds. of sugar, was nearly 6 Rs. 10 As. per maund, being Sicca Rupees 1,058,752, or at 2 *s.* 6*d.* per Sicca Rupee, £. 132,344.

15. Admitting the interest on the capital of an estate in Jamaica to be only six per cent; decay of buildings, mortality of slaves, and damage done by occasional hurricanes, to be only eight per cent per annum; the amount of interest and contingencies on the principal sum of one million sterling will be £. 140,000.

16.—The cost of 160,000 maunds of sugar in Bengal, is consequently somewhat less than the interest and contingencies alone on the capital required to produce a similar quantity on an estate in Jamaica; which would admit of the principal sum of £. 867,656 being employed (exclusive of the additional annual sum of £. 30,000,) as a floating and increasing capital to the kingdom, instead of being sunk, as must have been the case, had this quantity been produced in the British West India islands,

17.—If the Americans could purchase sugar in the West Indies cheaper than in Bengal, it may be presumed they would not, during the last three years, have exported from Calcutta, maunds 143,384, or cwt. 105,307, subject to a heavy East India freight and insurance; and it is somewhat remarkable, that the Americans have also taken from Bengal a greater quantity of rum and ginger (which are the two other principal articles of produce of the West India islands) than any other nation.

Report for 1798–9.

Par. 10.—In sugar, the excess in 1798–9, beyond the preceding year, is considerable, being

	mds.	rupees.
In 1798–9	79,368	Value 375,999.
In 1797–8	28,856	182,650.
Excess in 1798–9	50,512	193,349.

19.—No accurate idea can be formed of what these provinces might produce; but agreeably to the increase that has already taken place, in many articles during the last few years, it may be estimated, that one hundred thousand tons of merchandize might be shipped in private trade from Calcutta to the port of London, and that the value thereof in Great Britain, estimating the sugar at 45*s.* per cwt. the cotton at 14*d.* per lb. and other articles in the same proportion, would be nine millions sterling.

20.—The present state of the Cossimbuzar Island, in comparison to what it was prior to the year 1787, may be adduced as an instanee of the advantage which these provinces have already derived, and are deriving from the increase in the export trade.

21.—In 1787, the total quantity of sugar shipped from the port of

	tons.
Calcutta, was only	327
In 1798–9, the quantity shipped to the Persian gulph alone, was	400
And the total quantity to all parts	8,376
Or allowing for small omissions, it may be fairly stated at	9,000

External Commerce of Bengal.

22.—The demand for Bengal sugar, for every place, appears to be annually increasing.

23.—The average quantity of sugar exported to the Malabar coast, in 1795–6, 1796–7, and 1797–8, did not exceed 230 tons, and the value, 45,000 rupees: but, in the last year, near 2,600 tons have been shipped for this part of India, and the value was about five lacks of rupees.

REPORT of 1799–1800.	S. Rs.
Par. 5.—The total value of the exports, of every kind, in 1799–1800, is -	2,57,14,805
Whereas the average of the three preceding years, was only - - -	1,48,00,506
Excess in 1799–1800, - - S. Rs.	1,09,14,299

6.—The total quantity of sugar, exported from Bengal, in 1799–1800, on account of the Honourable Company, private merchants in Calcutta, the Danish Asiatic company, and private merchants at Serampore, exceeds twenty-one thousand tons, whereas the total quantity exported in 1786–7, was considerably short of one thousand tons.

7.—It is not very easy even to imagine, to what extent the export trade of this rich and fertile country might be ultimately brought, should the cultivation of cotton for the China trade, the manufactures of Bengal, and export trade to Europe, be encouraged in the Behar and Benares districts, and the higher parts of Bengal.

8.—To the value of the exports, being, Rs. 25,714,805 is to be added, the exports from Serampore, Chittagong, and Rivers to the eastward of Calcutta, amounting at least to Rs. 22,85,195, which makes the total value of the exports (exclusive of the Honourable Company's investment to Europe, and stores sent to different ports in India) two crores and eighty lacks of sicca rupees, or three millions five hundred thousand pounds sterling, prime cost in Bengal; or, including freight, insurance and other charges, prior to the delivery of the merchandize at their destined ports, above six millions sterling.

	S. Rs.
12.—The value of the merchandize exported to London in 1799–1800, is -	67,66,649
The average of the three preceding years, was only - - - - - -	53,87,981
Excess in 1799–1800 - - S. Rs.	13,78,668

13.—Sugar exported to London in 1799–1800 - - - - -	6,90,667
Average of the three preceding years - - - - - - -	3,45,216
Excess in 1799–1800 - - S. Rs.	3,45,451

37.—The quantity of sugar shipped during the last season from Bengal to America, is only 3,600 tons, but the Americans have carried from 12,000 to 15,000 tons, in addition, from Batavia.

38.—Thus the Americans are not only deriving the mercantile profit, and the employment of 15,000 tons of shipping for the transportation of East India sugars to America, but also on their re-exportation for the continent of Europe, and for the Mediterranean and Baltic trade.

54.—The comparative export of piece goods, raw silk, sugar, and other articles is, viz.

	Piece Goods.	Raw Silk.	Sugar.	Grain.	Other Articles.	Total.
	rupees.	rupees.	rupees.	rupees.	rupees.	rupees.
In 1799–1800 -	18,04,254	9,88,051	8,22,345	10,37,949	7,43,954	53,96,553
Average of the three preceding years -	6,16,169	4,76,180	2,12,914	6,14,407	3,90,592	23,10,262
S. Rs.	11,88,085	5,11,871	6,09,431	4,23,542	3,53,362	30,86,291

55.—A considerable part of the exports to the coast of Malabar, was sold at Calicut, the demand being very great, for the purpose of trade into Mysore. The average sale price of sugar at Calicut was 28 rupees per bag of two maunds. The demand for Bengal sugar was also very great at Goa and Mangalore.

72.—The late prohibition respecting the export of Bengal rum to Port Jackson, in New South Wales (being the article which produced the greatest profit) will probably deter the private merchants of Calcutta from sending any more ships to that colony.

75.—The manufactures of Bengal are more numerous, and more flourishing at present, than formerly; and it may be presumed, that the lands are also better cultivated, as, notwithstanding the increased export of grain, from 30,000 to 45,000 tons in private trade, and the large tracts of country required for the growth of sugar, indigo, and other articles exported by sea, the price of rice, and every other kind of food, used by the natives, so far from being enhanced, has been considerably lower, on the average of the last ten years, than during any preceding period, since the Honourable Company came into possession of the Dewannee.

REPORT

External Commerce of Bengal.

REPORT on the Private Trade between Europe, America, and Bengal, from 1st June 1795, to 31st May 1800.

Value of Sugar exported.

Par. 5.—In 1795–6	1796–7	1797–8	1798–9	1799–1800
S. R^{s}	3,05,051	4,77,000	1,82,650	3,76,000	6,90,667

6.—From the 1st of June 1795, to the 31st of May 1798, the quantity of sugar shipped to Hamburgh and Copenhagen (supposed to be principally on account of British subjects residing in Calcutta) was 140,729 mds. or 103,031 cwt. If this quantity had been shipped to London, and the sale price had been 45 shillings per cwt. the duty of customs at 37 per cent on the sale price, would have been £.85,773.

The trade is forced to foreign ports by the high freight on gruff articles, and the heavy duties on piece goods in London.

7.—The large quantity of sugar and saltpetre shipped in 1795–6, was in consequence of the lower rate of freight, obtainable at that time. In American ships,

The total exports to Hamburgh were - - Sa. Rs. 17,37,342
Of which sugar - - - - - - d° 1,77,931

11.—In 1798–9, when British merchants in Calcutta were permitted to load their own ships, or to make their own arrangements for the freight to London, there was not a single bag of sugar, or bale of cloths, shipped by them to any foreign port; whereas if such permission had not been granted, the shipments on Anglo-Danish vessels would have continued, as merchants in every part of the world will run many risks, sooner than allow their ships to rot in harbour, if employment can be obtained for them. To this cause it may be attributed, that in 1797–8, seven ships, supposed to be Anglo-Danes, sailed to Penang and the Eastward, for Batavia and Copenhagen.

15.—In 1799–1800, British subjects provided a larger quantity of goods than usual, in the expectation of the same indulgence in shipping them, as in the preceding year. Goods to a much larger amount would have been shipped to England, had the rates of freight been lower. In consequence of the high rates of freight, considerable quantities of sugar and other goods, intended for the London market, were re-sold in Calcutta.

REPORT on the Private Trade between Europe and America, and Bengal, from 1st June 1796, to 31st May 1802.

Par. 13.—The Company derive a revenue of 3½ per cent on sugar, when exported from the place of growth or manufacture, exclusive of the retained duty of one per cent, such merchandize being subject to the town duty of four per cent, on importation into Calcutta, whereof a drawback of three per cent is allowed on exportation, by sea.

External Commerce of British India.

REPORT on the External Commerce of British India, 1802–3.

Par. 65.—The imports into Bombay from China, consist of—

Merchandize - -	Rs. 40,18,265	or - - -	£. 502,283
Treasure - - -	6,13,954	- - -	76,744
	46,32,219		579,027

66.—The principal article of merchandize is sugar, Rs. 15,46,415, or £. 193,302.

67.—The import of sugar into Bombay from China has considerably increased; whilst from Bengal it has proportionally diminished, being near 4,00,000 rupees less than in the preceding year. This is principally occasioned by the sugar being required from China as ballast for the ships engaged in that trade. Probably an amelioration, at Bombay, of the import duties on sugar from Bengal, might be attended with beneficial consequences; the policy of every wise state being to encourage the growth and manufacture of its own country, in preference to foreign produce.

73.—The export of sugar from British India to the Persian and Arabian gulphs in 1802–3, amounted to Rs. 3,00,000 (£. 37,500.)

90.—Value of sugar exported to the Northern ports of Guzzerat, Rs. 8,57,183 (£. 107,147.)

98.—Value of sugar exported from Bombay to Cutch and Scind, Rs. 4,12,348 (£. 51,543.)

138.—Value of sugar imported into Tanjore, Rs. 11,512.

147.—Value of sugar imported into Malabar, Rs. 1,01,296.

158.—Value of sugar imported into Bengal from Benares and other parts, by land, Rs. 5,52,089, Rs. 8,58,946.

176.—Poonah, and the country adjacent to any part of the Concan, is generally supplied with merchandize to the extent of about 20 lacs per annum, consisting of silks, piece-goods, metals, and various other goods from Bombay, through the route of the small village of Panwell. In this year, the trade decreased, owing to the distracted state of the whole Mahratta empire.

Grain is the principal article in return (except as lately when a famine occurred). The other articles are timber, piece goods, hemp, coarse sugar, cotton; with about one-fourth part of the export value in bullion.

REPORT

External Commerce of Bengal.

REPORT on the External Commerce of Bengal, for 1803–4.

Par. 13.—There is a falling off in the export of sugar. The decrease is in consequence of the restrictions on country shipping. Sugar will scarcely bear the freight payable on an extra ship. The accounts of the state of the markets at home were so favourable this year as to induce the merchants to speculate in this article.

34.—The exports to America, amounting in value to the considerable sum of S. Rs. 67,60,058 (£. 845,007) consist chiefly of piece goods, sugar, and pepper (the last article is a re-export) and present an amazing increase of S. Rs. 18,97,911 (£.237, 214.) The increase is principally in the articles above mentioned.

51.—The exports of piece goods, silk, indigo and sugar, to the Arabian and Persian gulphs, fell off in the sum of S. Rs 2,03,273 (£. 25,409.)

61.—There has been a considerable falling off in the exports of sugar, grain, saltpetre, opium, spices, iron and iron nails, cordage, and madeira wine, to Penang and the Eastward.

92.—The exports from Bengal to New South Wales, consist of piece goods, sugar, Bengal rum, madeira wine, and other articles for the use of the inhabitants and settlers of that colony.

100.—Though there was a considerable increase in the exports of grain, indigo and ginger, the exports of piece goods, sugar and silk, &c. have fell off so considerably, that the exports in 1803–4, when contrasted with the preceding year, appear to have decreased in the sum of S. Rs. 1,62, 836 (£. 20,354.)

REPORT for 1804–5.

Par. 16.—Export of Bengal sugar to London in 1803–4 - S. Rs. 672
Do. - - - - - - in 1804–5 - 116
Decrease 556.

42.—Sugar exported to Hamburgh in 1804–5, valued at S. Rs. 2,145.

47.—Several American ships arrived from Batavia, &c. to complete their cargoes. The difficulty they experienced at Batavia to complete their cargoes, arose from the scarcity of sugar which prevailed while they were there.

58.—The exports to the Arabian and Persian gulphs, consisted chiefly of piece goods, indigo, sugar, silk, grain, and ginger, and amounted to S.Rs. 13,94,275 (£. 174,284.)

89.—The exports to New South Wales amounted to the trifling sum of S. Rs. 12,667 (£.1,583); and compared with the preceding year, present a falling off of S. Rs. 1,88,542 (£.23,568) principally in piece goods, sugar and rum.

99.—The export of sugar to the Malabar coast, was to the extent of S. Rs. 9,44,250 above the amount in the preceding year.

106.—Value of sugar exported to Ceylon, S. Rs. 7,192, or £. 899.

108.—Total export of sugar by private merchants in 1804–5, S. Rs. 18,20,446
- - - - - - - - - - 1803–4 - 10,71,366
Increase in 1804–5 - 7,49,080, or £. 93,635.

REPORT for 1805–6.

PAR. 20.—Among the articles of export which appear to have increased beyond the amount exported in the preceding year is sugar. S. Rs. 54,362 (£.6,795.) Regarding the increase in Sugar, I have to observe, that, early in last year, accounts reached Calcutta from Europe, stating, that a French squadron had landed some troops in several of our West India Islands, and had done considerable injury to the British plantations in that quarter. This, and the probability of some of our homeward bound West Indiamen falling into the hands of the enemy, which would deprive the London market of its annual supply of colonial sugars, made those who had sugar on hand here, desirous of venturing it on speculation to London. The total quantity exported on the private account of individuals, within the year to England, did not exceed in value S. Rs. 54,478 (£.6,809) and appears much too trifling to warrant the couclusion here drawn. Let it however be remembered, that freight was not to be procured, or I have the strongest grounds for saying, that consignments to a large extent would have been made.

42.—The exports to America, consisted of

Piece goods, in value	S. Rs. 47,63,132	or £.595,392
Sugar - - - -	11,69,261	— 146,158
Indigo - - - -	2,13,890	— 26,736
Sundries - - - -	1,31,772	— 16,471
Total - - -	62,78,055	784,757

53.—The exports to the Arabian and Persian gulphs increased, S. Rs. 7,91,012 (£.8,877) beyond the value exported in the year 1804–5; the surplus was in

Piece goods, to the amount of	S. Rs. 1,76,884	- - £.22,110
Sugar - - - - -	4.37,217	- - 54,652
Grain - - - - -	1,67,866	- - 22,221
The exports of indigo fell off -	1,01.614	- - 12,702

65.—The

65.—The under-mentioned articles of export to China, increased, viz.— External Commerce of Bengal.

Cotton - - - -	S. Rs. 10,78,299 - -	£.134,787
Piece goods - - - -	1,08,616 - -	13,577
Grain - - - - -	1,26,468 - -	15,809
Saltpetre - - - - -	2,22,144 - -	27,768
Sugar - - - - -	2,820 - -	352
Sundries - - - - -	32,613 - -	4.077
Increase -	S. Rs. 15,70,960	£.196,370
Decrease in opium, &c.	12,78,760	159,845
Total increase,	S. Rs. 2,92,200	£. 36,525

80.—Value of sugar and rum exported to Bombay and the coast of Malabar;
Sugar. S. Rs. 13,50,493 - - Rum, S. Rs. 1,20,133

84.—Value of sugar exported to Fort St. George and ports on the coast of Coromandel, S. Rs. 4,16,942.

87.—Value of sugar exported to Ceylon, S. Rs. 10,798

REPORT for 1806–7.

14.—The decrease in the value of the sugar exported to London, S. Rs. 20,764; in other articles there was an increase to the amount of S. Rs. 29,56,568.

35.—Value of sugar exported by the Americans.
In 1805–6, S. Rs. 11,69,261.
In 1806–7, - 9,74,378,
——— Decrease S. Rs. 1,94,883.

39.—Value of sugar exported to the Cape of Good Hope, S. Rs. 49,514.

57.—Increase of the exportation of sugar to the Arabian and Persian Gulphs of— S. Rs. 2,85,772.

117.—Increase of the exportation of sugar to Bombay and the coast of Malabar,— S. Rs. 2,83,476.

119.—The ships which carry sugar from hence to Bombay, frequently purchase cotton at that port, proceed to China, and thence return to Calcutta.

122.—Increase of the exportation of sugar to Fort St. George and the coast of Coromandel, S. Rs. 52,469.

128.—Increased exportation of sugar to Ceylon, S. Rs. 2,00,000.

130.—In the year 1806–7 the total export of sugar from Bengal increased S. Rs. 7,07,324.

REPORT for 1807–8.

Par. 29.—Decrease in the export of sugar to America, S. R^s. 6,96,256.

43.—Value of sugar exported to the Arabian and Persian Gulphs, in 1806–7, S. Rs. 2,02,273.

62.—Rum was exported to New South Wales.

68.—The exports to Bombay and the ports on the coast of Malabar amounted to S. Rs. 38,00,520 (£.450,065); and were short of the value exported in the preceding year, in the considerable sum of S. Rs. 12,17,740 (£. 152,218.) This deficiency was owing principally to a short consignment of S. Rs. 11,03,704 (£. 137,963) in value of sugar in this year. The cause of so considerable a defalcation in the exports of sugar from Calcutta to the Malabar coast, was occasioned by the employment of every disposable ton of shipping in the conveyance of grain from Calcutta to Fort St. George, and from the southernmost ports on the Malabar coast, to that presidency. Add to which, about S. Rs. 3,20,000 (£. 40,000) in value of sugar, was exported to Bombay from Bengal, on the public account of government, a portion of which was disposed of there.

80.—Decrease in the export of sugar to all parts, exclusive of the Company's trade, S. Rs. 28,86,288.

REPORT for 1808–9.

Par. 45.—Export of sugar to the Persian and Arabian Gulphs.
In 1807–8, S. Rs. 2,02,273.
In 1808–9, - 1,08,496.
——— Decrease, S. Rs. 93,777.

68.—Value of sugar exported to New South Wales in 1808–9, S. Rs. 33,566; and of Bengal rum, S. Rs. 8,541.

80.—The exports from Bengal to the ports on the Malabar coast, increased S. Rs. 5,04,265 (£.63,033); or from S. Rs. 38,00,520 in 1807–8, to S. Rs. 43,04,785 in 1808–9. Among the articles, the export of which increased, was sugar, S. Rs. 1,10,761. To the excess of S. Rs. 5,04,265, in the exports of private trade made to this coast, should be added the value of a consignment of sugar sent to Bombay, for sale, on the public account of government, and amounting to S. Rs. 6,41,845.

92.—In respect to the exports, almost every principal article thereof declined. The extent of the decrease in sugar, was S. Rs. 2,49,119.

External Commerce of Bengal.

REPORT for 1809–10.

Par. 33.—Value of sugar exported to America in 1809–10, S. Rs. 95,244.

42.—One of the vessels which exported from Calcutta to Manilla, proceeded thence to Bombay, chiefly laden with fine sugars and white rope, and obtained advantageous prices for both those articles.

47.—Treasure when exported from Manilla, is subject to a duty of 3½ per cent. The duty on the exports of merchandize is light; sugar, copper, and Manilla rope, pay 1½ per cent on the custom house valuation.

52.—The export of sugar to the Arabian and Persian gulphs, increased S. Rs. 1,95,099.

69.—The export of rum to Pegue, was S. Rs. 3,872 (£.484.) The exports to Pegue are at all times so inconsiderable, as to be scarcely deserving of notice. The intercourse with that port is so seldom direct, that no satisfactory explanation can be offered in regard to the increase or decrease of the trade.

73.—The export of sugar and rum to New South Wales increased, viz. Sugar, S. Rs. 6,584. Rum, S. Rs. 10,000.

84.—The decrease in the export of sugar to Bombay and the Malabar coast, in 1809–10, was S. Rs. 86,895.

97.—The increase in the export of sugar, by private merchants, to all places, in 1809-10, was to the amount of S. Rs. 2,05,419.

REPORT for 1810–11.

Par. 22.—The importation of sugar candy from China decreased.

35.—The exportation of sugar to Bombay and the Malabar coast decreased.

41.—Sugar was exported to Ceylon to the amount of S. Rs. 600.

51.—The importation of sugar from all places, increased S. Rs. 42,427.
Importation of sugar candy from all places, decreased S. Rs. 41,191.

52.—The exportation of sugar to all places, decreased S. Rs. 1,88,886.

REPORT for 1811–12

Par. 8.—Official value of sugar exported to London by private merchants,
In 1810–11, S. Rs. 91,346.
In 1811–12 - 10,458.
——— Decrease, S. Rs. 80,888.

18.—The exportation of sugar to the Arabian and Persian gulphs decreased.

21.—The importation of sugar from China increased.

24.—The exportation of sugar to the Maldive Islands increased.

26.—The export of rum to New South Wales increased.

30.—The export of sugar to Bombay and coast of Malabar decreased.

32.—There was a trifling decrease in the exportation of sugar to Fort St. George and the Coromandel coast.

33.—The exportation of rum and arrack to Ceylon, fell off, S. Rs. 18,476.

41.—The import of sugar candy increased S. Rs. 53,466. The import of rum and arrack decreased S. Rs. 20,909; and of sugar, S. Rs. 42,427.

42.—Total decrease in the import of sugar, S. Rs. 395,229.

REPORT for 1812–13.

Par. 18.—The exportation of sugar to the Arabian and Persian gulphs increased.

21.—There was a falling off in the importation of sugar candy from China.

32.—The exportation of rum to the Isle of France increased, S. Rs. 52,600.

39.—There was an exportation of Bengal rum to Sumatra, to the extent of S. Rs. 20,990 (£. 2,624) an article not exported to that island in 1811–12.

44.—The importation of sugar candy from all places decreased S. Rs. 23,490.

The total export of sugar and rum increased; viz. sugar S. Rs. 4,20,411; Bengal rum, S. Rs. 63,901.

REPORT for 1813–14.

Par. 6.—The total export of all kinds of merchandize to London:—
In 1812–13 - - - - S. Rs. 72,96,970
In 1813–14 - - - - 1,19,63,405
——— Increase S. Rs. 46,66,435.

Sugar exported to London:—
In 1812–13 - - - - - S. Rs. 9,307
In 1813–14 - - - - - 28,664
——— Increase S. Rs. 19,357.

14.—The exportation of piece goods to the Arabian and Persian gulphs, decreased S. Rs. 4,31,335: but in sugar there was some increase.

32.—The exportation of sugar and Bengal rum to New South Wales increased.

36.—The exportation of sugar to Bombay and the Malabar coast increased.

39.—The export of sugar to all places in 1813–14, increased S. Rs. 2,79,308.

REPORT

REPORT for 1814–15.

Par. 9.—Rice was chosen as ballast for the licensed ships of 1813–14 for Great Britain, from the expectation of the price being supported by the American war. It appears, however, not to have continued profitable; and the merchants have substituted as dead weight sugar and saltpetre, both of which articles exhibit a considerable increase this year, particularly the former in the large sum of S. Rs. 8,69,588 (£. 108,698.).

12.—Export of sugar to Great Britain in 1813–14, S. Rs. 28,664,
In 1814–15, - 8,98,252,
——— Increase, 8,69,588.

20.—Value of sugar exported to the Brazils, S. Rs. 15,861.

32.—Sugar exported to the Cape to the amount of S. Rs. 37,783.

34.—Increase in the export of sugar to Penang, S. Rs. 11,544.

41.—The export of Bengal rum to Pegue increased.

44.—Sugar laden as part of the Europe cargoes to the many ships that cleared out for Java, with the intention of loading there for Europe.

52.—The exportation of Bengal rum to Isle of France decreased, S. Rs. 31,914. Excess on sugar S. Rs. 49,870.

54.—Decrease in the export of sugar to New South Wales in 1814–15, S. Rs. 22,867.—No rum exported thither in 1814–15.

58.—Increase in the export of sugar to Bombay and the Malabar coast, S. Rs. 48,495.

62.—Increase in the export of sugar and rum to all places in 1814–15;—
Sugar, S. Rs. 8,97,581. - - Rum, S. Rs. 46.406.

REPORT for 1815–16.

Par. 8.—There was a falling off in the export of sugar to the United Kingdom, to the value of S. Rs. 80,895.

Foreigners can use sugar only, as dead weight for their ships clearing out from this port; of course the supply by them to the Continental market must naturally interfere with our adventurers in this commodity.

18.—Export of sugar to Russia to the extent of S. Rs. 1,78,041.

19.—Renewal of the trade with America.

Value of sugar exported to that country in 1815–16, S. Rs. 2,52,697.

43.—Sugar exported from Bengal to Java must be considered as an export to Europe,—via Java.

53.—The export of Rum to Sumatra decreased.

60.—Decrease in the importation of sugar candy from all places, S. Rs. 11,584.
Increase in the exportation of sugar to all places, - - 2,09,238.
Decrease in the export of rum to all places, - - - 41,065.

66.—Abstract statement of imports by land,
Sugar, in 1814–15, S. Rs. 16,77,485
In 1815–16, - - 17,22,327
——— Increase, S. Rs. 44,842.

Imports by land of the Company's dominions.
Sugar, in 1814–15, S. Rs. 16,69,975.
In 1815–16, - - 16,10,739
——— Decrease, S. Rs. 59,236.

Imports by land beyond the Company's dominions.
Sugar, in 1814–15, S. Rs. 7,510
In 1815–16, - - 1,11,588
——— Increase, S. Rs. 1,04,078.

REPORT for 1816–17.

Par. 9.—Sugar exported to Great Britain,
In 1815–16 - - - S. Rs. 8,17,357
In 1816–17 - - - 10,43,713
——— Increase S. Rs. 2,26,356.

20.—Sugar of fair quality can hardly be exported at a saving price, even at the present redueed rates of freight. Dead weight however for the extensive shipping homeward-bound, must be obtained; and sugar, chiefly of an inferior kind (or khaur) has therefore been resorted to for this purpose, in preference to saltpetre, its only substitute except rice, for ballast. This will probably account for the augmented shipments in this year. When freight shall rise, as it must in the course of things do, our sugars cannot compete with the the produce of the West Indies; the important benefit therefore, which would be conferred on the East India trade, by placing us on the same footing with the West India merchants, in regard to the duties on sugar, is sufficiently obvious.

21.—Bengal sugars are in the mean time much in esteem on the Continent of Europe, and will be supplied there to a considerable extent (to the exclusion from those parts, of the West India produce) by foreign vessels visiting Bengal; it being found by them a very convenient and favourable article for their dead weight.

32.—Sugar exported to Liverpool,
In 1815–16 - - - S. Rs 1,12,431
In 1816–17 - - - 1,41,421
——— Increase S. Rs. 28,990.

Sugars exported to Glasgow, in 1815–16 - - - Nil.
In 1816–17 - - - 34,697.

50.—France,

External Commerce of Bengal.

50.—France, after almost a total exclusion for nearly a quarter of a century, renewed her commercial intercourse with Calcutta.

Official value of all exports to France,
In 1816–17 - - - S. Rs. 8,32,992.

Official value of sugar exported to France,
In 1816–17 - - - - - 74,433.

51.—In the first year of the renewed trade of Holland with Calcutta, viz. 1816–17, sugar of the official value of S. Rs. 55,771, was exported to that country; the value of all the exports thither being S. Rs. 2,95,130.

54.—Sugar exported to the Isle of France,
In 1815–16 - - - S. Rs. 94,429
In 1816–17 - - - 1,37,489
——— Increase 43,060.

65.—The export of sugar to the Arabian and Persian gulphs decreased, S. Rs. 1,37,592.

68.—The diminished export of sugar is to be attributed in the most part to the enhanced value of the article, occasioned by the increased shipment of it in British and foreign traders.

120.—The future trade with America will probably be more limited, and may average S. Rs. 36,00,000, of which it is estimated 10,00,000 will consist of sugar.

122.—Increase in the export of sugar to New South Wales - - S. Rs. 25,669.
Decrease in the export of rum to New South Wales - - - 20,674.

124.—Increase in the export of sugar and rum to all places:
Sugar - - - - - S. Rs. 10,95,484.
Rum - - - - - - - 1,420.

130.—Inland Trade.—Abstract statement of imports by land,
Sugar, in 1815–16 - - - S. Rs. 17,22,327
In 1816–17 - - - - 32,42,899
——— Increase 15,20,572.

Imports by land of the Company's dominions:
Sugar in 1815–16 - - - S. Rs. 16,10,739
In 1816–17 - - - 32,42,899
——— Increase 16,32,160.

Imports by land beyond the boundaries of the Company's dominions:
Sugar in 1815–16 - - - 1,11,588
In 1816–17 - - - - Nil
——— Decrease 1,11,588

REPORT for 1817–18.

Par. 5.—Rate of freight to London, for sugar as dead weight, in 1816–17, and 1817–18, £. 10 per ton.

22.—Export of sugar to the United Kingdom:
In 1816–17 - - - S. Rs. 10,43,713
In 1817–18 - - - - 12,49,012
——— Increase 2,05,299.

44.—Sugar, saltpetre and grain, may be brought in the present report under one head, for during the past commercial year, nothing has influenced their exportation to the United Kingdom, but the necessity on the part of their exporters, to furnish dead weight for the ships, which have been consigned to them, with a view of getting the vessels away; and perhaps, in no instance, has a ship been supplied with any of the articles in question, more than has been deemed sufficient for ballast, to enable her to prosecute the voyage home with safety.

45.—It will be observed, that the excess on the export of these articles, viz. sugar, S. Rs. 2,05,299 (£. 25,662) and grain, S. Rs. 4,31,919 (£. 53,990) over the preceding year, arises from the increased number of free traders which have visited this port, during that period; and nothing, it may be asserted, has regulated their shipment, but a regard to that which would probably realize most advantageously in England.

46.—It may not be improper here to repeat the sentiments expressed in the report of last year, under the head of sugar, that if the East India sugars could be imported into England at reduced rates of duty, or on equal terms with those from the West Indies, it would unquestionably be productive of many beneficial effects.

47.—The heavy duties paid on East India sugars on their importation into Great Britain, continues to press severely on the produce of this country; and until some measures are adopted to place the sugar of the East and West Indies upon a more equal footing, much improvement in the trade of that article in British ships cannot be expected; and it is obvious, that foreigners frequenting this port, after paying the extra duties to which they are subject, can undersell the British merchant in the article of sugar, in all the ports of the Continent.

48.—While, therefore, the present high rate of duty is levied on East India sugars, not only is the foreign trade fostered and supported, to the exclusion equally of the British East and West India merchants, but a proportionate encouragement is given to the produce of the article in the Island of Java, while this country alone could furnish supplies for the consumption of all Europe, or probably all the world, of a quality too which would naturally improve in proportion to the encouragement afforded to the exportation. It appears, indeed, that East India sugars are already extensively consumed both in the United Kingdom and on the Continent of Europe.

49.—The

49.—The following abstract statement is here given, to show the export of sugar to Great Britain, Foreign Europe, and America, for the last two years. External Commerce of Bengal.

Exports of Bengal Sugar to various Parts.

	Total.		Great Britain.		Foreign Europe.		America.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		S. Rs.		*S. Rs.*		*S. Rs.*		*S Rs.*
1816/17	10,647	22,43,868	5,129	10,43,713	716	1,54,166	4,802	10,45,989
1817/18	11,967	27,96,303	5,663	12,49,012	1,222	2,91,841	5,082	12,55,450

58.—Sugar exported to the Outports of Great Britain in 1816 and 1817–18.

	In 1816-17.	In 1817–18.
To Liverpool - - -	S. Rs. 1,41,421	S. Rs. 1,11,569
Greenock - - - - -	34,697	44,542
Hull - - - - - -	—	13,262
Bristol - - - - - -	—	16,167

59.—Malta and Gibraltar.—The direct trade from Calcutta to the Mediterranean is as yet but in its infancy; five Bengal licensed ships, and two English licensed brigs, sailed from Calcutta for Malta and Gibraltar. The value of their cargoes, consisting of piece goods, indigo, sugar, saltpetre, cotton, &c. amounted to S. Rs. 18,90,628; of which sugar S. R. 1,61,410.

60.—It appears that these articles, with the addition of large quantities of coffee, are annually exported thither from London, and meet ready and favourable sales. It therefore seems extremely probable, that the direct importation of these articles of East India produce from Bengal into the Mediteranean, will bring results highly advantageous to the exporters, and will save considerable loss of time; and as all sizes of vessels may be employed in the trade under the provisions of the bill, it appears well calculated for the shipping of this port, especially as vessels manned with Lascars, bound thither, escape the rigour of a northern climate. Piece goods, rice and sugar, appear to be the articles likely to continue the most etxensive exports to the Mediterranean. There is a great consumption of sugar, of the dry, white kind, which should, as nearly as possible, resemble Havannahs or crushed lumps.

90.—Sugar exported to Lisbon in 1816–17 - - - - - - S. Rs. 11,273
1817–18 - - - - - - Nil.

95.—The exports to the Brazils exhibit a trifling nett decrease in the sum of S. Rs. 3,098 (£.387;) piece goods fell off to the amount of S. Rs. 86,082 (£. 10,760,) and indigo S. Rs. 22,171 (£. 2,721). In sugar, saltpetre, sundries and re-exports, there was an excess.

100.—In the exports to the Arabian and Persian gulphs, a nett increase is exhibited of S. Rs. 3,59,912 (£. 44,889). Piece goods, indigo, sugar and grain, are the commodities on which this excess chiefly fell.

101.—Our trade with Bombay and the coast of Malabar experienced a considerable diminution, both imports and exports. Falling off in the exportation of sugar to Bombay, S. Rs. 3,11,835 (£. 38,979). The high price in Calcutta of this article, owing to the demand for Europe shipping, is one cause of this defalcation; Bombay being supplied from China, Manilla and Java, with this commodity on easier terms; at the same time that it furnishes advantageous returns for the proceeds of its China trade.

116.—An increase was experienced in the amount of exports to the Coast of Coromandel in the nett sum of S. Rs. 3,15,315 (£. 39,414). The excess was felt chiefly in the articles of sugar and silk, the former to the extent of S.Rs. 77,503 (£.9,688,) and the latter S.Rs.2,10,325 (£. 26,291.)

143.—The exports to South America amounted to S. Rs. 3,87,518, of which S. Rs. 15,698 in sugar.

145.—First attempt at commercial enterprize between the ports of Calcutta and Ochotsk, in Siberia. The Brothers, of sixty-five tons, sent thither; total value of the cargo, S. Rs. 16,399, of which sugar S. Rs. 3,330, the quantity being 333 maunds; and sugar candy S. Rs. 338, the quantity being 26 maunds.

168. The amount of sugar alone exported in 1817–18 to America, was not less than S. Rs. 12,55,450 (£.156,931) whilst the heavy duties in England on East India sugar almost deter our own merchants from participating in this valuable article of export.

174.—180.—182.—The Americans exported from Canton in 1803–4, 13,013 packages of sugar; in 1809–10, 1,026 peculs; in 1812–13, 540 peculs.

184.—In 1817–18 the importation by sea of sugar candy, from all places into Bengal increased S. Rs. 20,431. In the same year the export of sugar to all places increased S. Rs. 4,61,986.

190.—Abstract statement of imports of sugar by land:

In 1816–17 - - - S. Rs. 32,42,899
1817–18 - - - - 38,93,587
Increase 6,50,688.

External Commerce of Bengal.

Imports by land of sugar the produce of the Company's dominions:

In 1816–17	- S. Rs.	32,42,899
1817–18	- -	38,88,772
	Increase - -	6,45,873

REPORT for 1818–19.

Par. 97.—The following abstract statement is here given to show the exports of sugar to Great Britain, Foreign Europe, and America, in the two years 1817–18 and 1818–19.

Exports of Sugar to various Parts.

	Total.		Great Britain.		Foreign Europe.		America.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		S. Rs.		*S. Rs.*		*S. Rs.*		*S. Rs.*
1817–18	11,967	27,96,303	5,663	12,49,012	1,222	2,91,841	5,082	12,55,450
1818–19	14,663	33,29,371	5,990	12,26,630	3,972	9,34,755	4,701	11,67,986

The difference between the exports to the United Kingdom in the past and present years is too inconsiderable to merit particular notice. The quantity increased in the present year, while, owing to the quality of the sugar exported having been coarser than usual, the value is less: the coarsest brown or clayed sugars are preferred in Europe. The exports of sugar to America declined S. Rs. 77,886, while those to Foreign Europe advanced S. Rs. 6,32,914 in the same period.

98.—The ability of the provinces subordinate to this presidency to furnish sugar in quantities equal to the demand of all Europe, is unquestionable.

99.—East Indian sugar has become to a certain extent an article of consumption in the United Kingdom, although liable to a duty of 10*s.* per cwt. beyond that charged upon the same article the produce of our West Indian plantations. It appears also to be in extensive demand throughout Foreign Europe, even with the increased charge of transit which attends its conveyance by way of Great Britain.

100.—East Indian sugar is also conveyed direct to continental Europe in foreign bottoms, thereby placing one merchant, who may venture upon competition in the continental markets, under the same disadvantages which attended any attempt to rival the American commerce in the Mediterranean, before the legislature thought fit to authorize a free trade from India to that quarter.

101.—Many arguments have been adduced both for and against the expediency of placing sugar, the produce of this country, upon the same footing with regard to duties and drawbacks as that imported from the West Indies. The objection urged against the direct exportation of sugars from this country in British bottoms to the continental markets (we do not of course include Gibraltar, which already possesses the privilege, or Malta) is, that such a measure would diminish, if not totally ruin, the trade of some of the most flourishing British ports; that such, however, would be the consequence, we are not prepared to admit, for as the quantity of sugar annually imported into Great Britain from the West Indies, is from 175,000 to 200,000 tons, it cannot be supposed, that if even the whole of the 6,000 tons, exported annually from Bengal to Great Britain, were carried direct to the continent of Europe, it would in the least affect the trade of our ports in England.

102.—The fact is so obvious, that almost every shipment of sugar, made from Bengal to the United Kingdom since the year 1816, has been a losing one; and that it has been equally so in France, Holland, &c. is evident from the small number of ships of those nations that have frequented this port; and, in fact, the trade in sugar from Bengal to Europe can never be an extensive one until there is a material reduction in the price here. It has been said, and very generally admitted, that if the West Indian planter receives 20*s.* per cwt. for his sugar, with an average crop, he is able to cultivate to some advantage; this price is barely equal to six rupees per maund, while West Indian sugar is superior, as well for consumption in its unrefined state, as for manufacture. It is likewise subject to much less charge for freight, &c. so that East India sugar must be sold for about half its present price before it can form a very important article of trade to Europe.

103.—Although the importation of East Indian sugar into Great Britain has not done much injury as yet to the West Indian planter, it may happen, if the price fall much here, that it may interfere materially with the West Indian interests, and in such case, the latter are certainly entitled to legislative protection; almost the whole cultivation of the colonies in the West Indies is carried on by British capital and by British subjects, who are obliged to receive their supplies from Great Britain, or her North American colonies, and who cannot send their produce to any other market than that of Great Britain. As long as the price of sugar continues so high here, it cannot be a considerable article of trade to England, even if the duties were equalized; and, in doing so, the British government would cause a serious injury to the West Indian planter, while they would not produce an increasing importation of sugar from Bengal.

104.—In the course of the year under consideration, sugar has maintained a price above its comparative value when taken with other articles usually exported to England. This circumstance

circumstance may be ascribed, in a great measure, to an increased demand from Bombay and the two Gulfs, from Foreign Europe and the United States of America, which was very brisk about the close of 1818, and the commencement of the present year, although the article itself was of an inferior quality. Up to the 1st of April last, little of the new crop had come into the market owing to the stoppage of the Mattabangah, and prices continued in advance; it was expected, however, that the prices would fall as the season advanced, and that the year 1819–20 would not exhibit such favourable quotations as the present. External Commerce of Bengal.

Sugar Exported to the Out-ports of Great Britain:

	In 1817-18.	In 1818-19.
To Liverpool	S.Rs. 1,11,569	S.Rs. 3,05,519
Hull	13,262	25,754
Greenock	44,542	84,268

110.—There has been a very considerable increase in our commercial intercourse with France in the year under report.

112.—In the exports, cotton and saltpetre are the only articles which exhibit any considerable falling off; while in indigo, sugar, and silk, there was an excess of S.Rs. 7,49,796.

119.—The cargoes taken by the Americans from China, the Eastern Islands, and the settlements in British India, into the south of Europe, consisted of coarse white cloths, sugar, pepper, indigo, coffee, spices, nankeens, tea, &c. but to what extent annually, it is not easy to estimate, on account of the diversity of ports to which they were in the habit of resorting. It was well known, however, that their trade was both considerable and lucrative previous to the war of 1812. Now it is sufficiently obvious, that the purchases made in Leadenhall-street, at a great advance on the original cost, to cover the profits, freights and charges of the Honourable Company's monopoly, would not allow the mercantile interest of Great Britain to offer any effectual competition to a direct trade carried on by a nation well skilled in traffic, and economical even to parsimony in their nautical and commercial details. It is also easy to perceive, that an obstinate persistance in the old commercial system relative to India, would have thrown by far the greatest part of the trade between this country and the south of Europe, especially during peace, into the hands of a people on whom, as it should appear from other matters, we are not particularly desirous of conferring benefits.

133.—In the exports to Denmark, an increase in sugar S.Rs. 83,376.

133.—The exports to Portugal amounted to S. Rs. 20,78,172, of which sugar, S.Rs. 40,943.

139.—The exports to the Cape of Good Hope, increased S.Rs. 2,04,700, of which sugar, S.Rs. 31,748.

151.—The exports of sugar to Bombay and coast of Malabar decreased S. Rs. 1,54,196. The high price which sugar had obtained in this and in the last year, had naturally the effect of imposing a restriction upon the exports of this article.

162.—The export of sugar to the coast of Coromandel decreased S.Rs. 67,082.

179.—Exports of sugar to South America:

In 1817-18.	In 1818-19.
S. Rs. 15,698	S.Rs. 42,483.

Increase S.Rs. 26,785.

188.—The exports to New South Wales increased S.Rs. 72,798; sugar fell off.

192.—The exports to the United States of America increased S. Rs. 21,35,478; sugar decreased, S. Rs. 87,160.

199.—There has been an increase on sugar and rum, on the total import and export trade of this presidency, compared with 1817–18, to the amount of—

Sugar,	Imports S.Rs. 16,875	Exports S.Rs. 2,56,967
Rum		71,388

206.—Imports and exports by land:

	In 1817-18.	In 1818-19.	
Imports, Sugar	S. Rs. 38,93,587	S. Rs. 47,33,633	Increase, S. Rs. 8,40,046
Sugar candy	27,843	59,939	32,096

Imports and exports by land, of sugar the produce of the Hon. Company's dominions:

	In 1817-18.	In 1818-19.	
Imports, Sugar	S. Rs. 38,88,772	S. Rs. 47,33,633	Increase, S. Rs. 8,44,861
Sugar candy	27,843	59,939	32,096

REPORT for 1819-20.

Par. 18.—Total export, including the Company's trade to the United Kingdom:

In 1818–19	S. Rs. 2,08,71,768
1819–20	2,24,32,795
	Increase S. Rs. 15,61,027

Sugar exported, including the Company's trade to the United Kingdom:

In 1818–19	S. Rs. 14,90,874
1819–20	15,82,710
	Increase S. Rs. 91,836

26.—The quantity of sugar exported to the United Kingdom in this, was so nearly on a par with the exportation during the past year, that there is little occasion for remark. Although

External Commerce of Bengal.

Although this article did not support, throughout the year, the high prices at which purchases were effected at the early part, still it was a favourable article of exportation, and occupied a more than usually large proportion of the export tonnage to the United Kingdom, since, in the absence of light freight, cotton principally, the agents and owners of ships were compelled, in order to complete their cargoes, to put on board a more than ordinary proportion of heavy goods, as well in the article saltpetre, as sugar.

27.—It may be proper to observe, that as we have incorporated the trade of the Company with that of individuals, in the above statement for the present year (1819–20,) it became necessary, in order to draw a fair comparison between the state of our trade in this and in the last year, that the statements of the two years should embrace the trade both of the Company and of individuals; and we have in consequence increased the value of the exports to Great Britain in the year 1818–19, by adding to it the value exported thither by the Honourable Company during the same period.

28.—In comparing, therefore, the exports to the mother country, in the last two years, with those of the years anterior to them, it should be borne in remembrance, that in the former the trade of the Company is included, while the latter embraces that of individuals, exclusively. This combining of the trade of the Company with that of individuals, has had the effect of greatly increasing the value of the exports of such articles as sugar in the above comparative statement.

36 and 37.—The trade with France declined considerably. The consignment of cotton decreased S. Rs. 6,78,676, and sugar S. Rs. 2,98,053.—Indigo increased S. Rs. 2,17,086.

48.—Sugar exported to the Cape:

In 1818–19	S. Rs.	34,537	
1819–20		60,079	
			Increase S. Rs. 25,542

57.—Sugar exported to Bombay and the Malabar Coast:

In 1818–19	S. Rs.	1,52,246	
1819–20		3,08,581	
			Increase S. Rs. 1,56,335.

61.—The trade carried on between Calcutta and Ceylon has never been considerable. Ceylon furnishes arrack, coffee, and cinnamon; and receives in return grain, sugar, and a trifling amount in sundries, besides salt provisions for hs Majesty's squadron.

99.—Total export to South America.

In 1818–19	S. Rs.	6,60,107	
1819–20		7,25,842	
			Increase S. Rs. 65,735

Sugar exported to South America,

In 1818–19	S. Rs.	42,483	
1819–20		28,121	
			Decrease S. Rs. 14,362

111.—Sugar-candy imported from China,

In 1818–19	S. Rs.	54,209	
1819-20		70,205	
			Increase S. Rs. 15,996

144.—Sugar exported to New South Wales,

In 1818–19	S. Rs.	21,960	
1819–20		98,526	
			Increase S. Rs. 76,566

151.—Sugar exported to the United States of America,

In 1818–19	S. Rs.	11,67,986	
1819–20		14,53,353	
			Increase S. Rs. 2,85,367

Increase in 1819-20, in the import of sugar candy, S. Rs. 20,680
of sugar - - 11,031

Increase in the export of sugar from Calcutta in 1819–20, S. Rs. 81,289.

Increase in the export of Bengal rum, in 1819-20, S. Rs. 80,748.

163.—Internal Trade.— Import by land into Calcutta of sugar and sugar candy, the produce of the Company's dominions.

	Sugar.	Sugar Candy.	Total.
In 1818–19	S. Rs. 49,97,952	S. Rs. 59,939	S. Rs. 50,57,891
1819-20	48,60,463	34,911	48,95,374
Decrease	1,37,489	25,028	1,62,517

REPORTS on the External Commerce of the Territories under the Presidency of Fort St. George, exclusive of the Trade of the East Indies.

REPORT on the Trade of the Port of Madras for 1802.

External Commerce of Madras.

Par. 9.—THE value of the trade with Batavia, is as yet very trifling, one vessel only having arived from that port in the course of last year. Her imports chiefly consisted of fine soft sugar, in canisters, the greatest part of which was afterwards re-exported to London and Hamburgh.

22.—The trade to and from China, during the last twelve months, has fallen off considerably, principally owing to the very great failure of an American merchant, who individually carried on an import and export trade to the extent of several lacs of S. Rs. The greatest part of the imports are now made by persons usually supplying the annual demands of this presidency and its subordinates in tea, sugar candy, &c. &c.

46.—The imports of merchandize from Manilla, are very trifling in value, compared with the amount imported in bullion, and the export of our produce and manufactures. Sugar and cochineal, with a few other trifling articles, comprise the whole, not exceeding in value 50,193 S. Rs.

REPORT on the External Trade, carried on by Individual Merchants in 1803, in the Territories under the Presidency of Fort St. George.

Par. 71.—A very extensive trade is carried on with the eastern ports from Nagapatam and Nagore, in the Tanjore country, particularly with Atcheen, the imports from whence, in the course of last year, amounted to the sum of S. Rs. 1,51,362, being an increase in the trade compared with 1802, of S. Rs. 63,836.

72.—This valuable trade is almost entirely carried on by Subbies, principally consisting of beetle nut, raw and boiled, valued at S. Rs. 90,827; pepper 1,615 cwt. S. Rs. 35,913; camphire S. Rs. 3,525; benjamin 3,775 S. Rs.; horses S. Rs. 5,420, with a proportionate quantity of rattans, stick lac and sugar.

74.—A small import into Tanjore from Batavia took place in the last year, amounting to S. Rs. 27,105, consisting principally of Japan copper, valued at S. Rs. 24,242, with a trifling quantity of sugar and arrack.

81.—The trade of Tanjore with the Mauritius, was trifling indeed; sugar to the value of S. Rs. 2,782 only, having been imported, and salampores to the extent of S. Rs. 29,596 exported.

REPORT on the External Commerce of the Part of Madras in 1803.

Par. 28.—The principal imports from Batavia consisted of sugar, in value S. Rs. 2,84,492; Japan copper, S. Rs. 17,102; arrack, gallons 126,700, usually imported for the use of His Majesty's squadron. The greatest part of the first article was afterwards re-exported to the port of London, on the extra ship Wellesley.

91.—The exports to New Holland were composed chiefly of rum and sugar, in value S. Rs. 51,998.

129.—Sugar and mace to a considerable amount were shipped from Tranquebar, with a view, no doubt, of sending them to Copenhagen.

REPORT of the Sea Customer at Mahé, on the External Commerce of Malabar in 1803.

Par. 12.—The trade of Macao sunk by degrees under a competition against superior wealth, industry, and enterprize; and since that period, Bombay has engrossed the whole trade, export and import, from this side of India to China. From Bombay, Canara and Malabar, Guzurat, Arabia, and Persia, are now furnished with the merchandize of that extensive empire. The depôt trade of Malabar expired, if I may use the expression, with the late capture of Cochin, when the annual investments of sugars and spices from Batavia to that place ceased.

48.—The Arabs formerly exported sugar of Batavia from Calicut.

50.—Batavia sugar and spices were exported from Calicut to Surat and the north of India.

96.—In addition to the present exports of Malabar, Bourbon cotton and sugar might be added to a considerable amount.

98.—Sugar is of greater importance than cotton. The quantity of that article annually consumed in the north of India and Arabia is immense; and if it were to be had here, the produce of no other part of India could come, by reason of the cheapness of freight, in competition with that of this province. The natives of these extensive countries give a decided preference to the sugar of Batavia, over that of Bengal and China; and the Dutch, for many years through Cochin and their factory at Surat, supplied those countries, almost exclusively from Batavia, though they sometimes also sent ships laden with it direct to to Muscat.

99.—Struck with the advantages that might be derived to this province, from the sugar cane, I have cultivated it, and have made sugar. It is of the quality wanted by those nations; and if cultivated in Malabar, I would venture to say, that a sale would be found for it, at the same price as it is purchased for in Batavia, to the value of all the present exports from Malabar.

External Commerce of Madras.

REPORT on the external Commerce of the Port of Madras in 1804.

Par. 9.—The imports from Batavia during 1804, were very trifling.

11.—Sugar imported from Bengal.

In 1804	683 $\frac{3}{4}$ cwt.	S. Rs.	6,094.
1803	190 $\frac{1}{4}$ „	„	2,655.
Increase	493 $\frac{1}{2}$		3,439.

16.—Sugar candy exported from Fort St. George in 1804, 4,352 cwt. value S. Rs. 72,548.

25.—Sugar candy imported into Fort St. George, from China.

In 1804	3,393 cwt.	S. Rs.	59,664.
1803	360 „	„	8,000.
Increase	3,033		51,664.

46.—Total decrease of exports and re-exports to London, S. Rs. 9,16,965, of which the decrease in sugar was cwt. 11,337, or S. Rs. 88,010.

57.—A new trade has opened, during the last year, with Mosambique, consisting entirely of exports from Madras. Broad cloths, shirts, arrack, sugar, sugar-candy, &c. amounting to the sums of S. Rs. 25,348. In return, were imported into Ceylon, on the ship Griffin, four hundred and thirteen slaves.

REPORT of the Collector of Sea Customs at Calicut, on the External Trade of Malabar and Canara, in 1804.

Par. 41.—In peaceable times, the quantity of Batavia sugar brought to Cochin, and sometimes direct to Calicut and Tellicherry, was very considerable. Since the war it has been trifling. Of this sugar, but a small portion was consumed here; the major part being re-exported by the traders of Guzarat and Arabia. As this, therefore, is chiefly a trade of depôt, in which the duties, with the merchant's profit and charges, only remain in the country; a high duty would discourage, if not destroy it. The import duty, therefore, ought to be low, and an additional town duty levied on all that is taken out for consumption here. Could restrictions on this article here favour the vent of the sugar of Bengal, they might, perhaps be laid on with utility; but the inhabitants of Guzarat and Arabia give a decided preference to the sugar of Batavia, which high duties here would only compel them to seek elsewhere. The restrictions, therefore, in favour of Bengal can only be extended to the consumption of our own provinces, by imposing an additional town duty on Sugar from Batavia.

REPORT on the External Commerce of the Territories under Fort St. George, in 1805.

Par. 12.—Decrease in the exportation of sugar from Mangalore to Arabia, 3 $\frac{1}{4}$ cwt.; S. Rs. 652.

17.—Sugar imported from Bengal into the Northern Circars, 199 $\frac{1}{4}$ cwt.; S. Rs. 3,341.

21.—Ditto, into the Southern Division of Canara, 53 $\frac{1}{4}$ cwt.; S. Rs. 903.

3.—Sugar candy exported from Canara to Bombay, 4,352 cwt. S. Rs. 72,548.

43.—125 cwt. of sugar, value S. Rs. 3,044, imported into Canara from Cochin, and some sugar from Bengal.

74.—Sugar candy imported into Cochin and Tinnevelley from Cochin, 89 cwt. S. Rs. 3,375.

107.—Gallons 44,359 of rum, exported from Munsorcotta to Madras.

116.—Sugar, 76 cwt. S. Rs. 2,384, imported into Coringa from Bengal.

119.—Sugar, 189 cwt. S. Rs. 2,983, imported into Masulipatam from Bengal.

142.—Sugar imported into Nagore, S. Rs. 2,426.

149.—Sugar imported from Cochin into Coilpatam, 35 cwt. S. Rs. 2,368.

150.—Palmeira jaggery, 1,284 cwt. S. Rs. 2,723, and Palmeira sugar, 181 $\frac{3}{4}$ cwt. S. Rs. 675, exported from Coilpatam to Fort St. George.

151.—Sugar imported from Cochin, into Cotosaharapotam, 54 cwt. S. Rs. 1,006.

158.—Imports into Keelakurry, from Ceylon, sugar, 11 $\frac{1}{4}$ cwt. S. Rs. 216; from Tanjore, sugar candy, 4 cwt. S. Rs. 137; from Travancore, sugar, 10 cwt. S. Rs. 190.

159.—Sugar exported from Keelakurry, S. Rs. 410.

165.—Imports into Tranquebar, from the southern division of the Carnatic, sugar, 70 $\frac{1}{4}$ cwt. S. Rs. 1,366.

166.—Exports to Tranquebar from the southern division of the Carnatic, sugar candy, 5 cwt. S. Rs. 132; from Tanjore, sugar candy, 3 $\frac{1}{2}$ cwt. S. Rs. 102.

REPORT on the External Commerce of the Port of Madras for 1805.

Par. 48.—The traffic carried on between Fort St. George and the foreign possessions to the eastward of the Cape of Good Hope, in the last year, was, S. Rs. 20,52,507, or 10 $\frac{9}{16}$ per cent. of the total trade of Madras. From Batavia, the imports, in value S. Rs. 66,845, were made on one American and one Danish vessel. Arrack, spice, and sugar, were the articles which composed it.

REPORT on the Trade of the Port of Madras in 1809.

Par. 3.—Sugar and sugar candy imported from Bengal, S. Rs. 44,249.

8.—Sugar one of the principal articles imported from China; and likewise imported from the Penang on the eastward.

REPORT on the External Commerce of the Territories under Fort St. George, in 1811-12.

Sugar and Rum imported into Masulipatam from Calcutta.

Sugar imported into the port of Madras, and the ports on the Malabar coast, from Batavia, Bengal, Bombay, Manilla, and China, and the Eastern ports.

41.—Imports

41.—Imports from the Northern Circars; rum, distilled in the districts of Ganjam, S.Rs. 87,708. This spirit is also, with Ceylon arrack, supplied for His Majesty's squadrons in the Indian Seas.

44.—Rum likewise imported into Madras from the southern division of the Carnatic.

REPORT on the External Commerce of the Territories subject to the Presidency of Fort St. George, for 1813-14.

Par. 14.—Bellary imported by land sugar, S. Rs. 1,63,708.

21.—Cuddapah imported sugar, S. Rs. 12,672.

30.—Nagore imported by sea, sugar from Calcutta, S. Rs. 3,055.

REPORT on the External Commerce of the Port of Madras, 1814.

Par. 61.—The usual supply of Sugar from China:

REPORT on the Trade of the Malabar Coast, in 1813–14.

Par. 75.—Sugar imported from China as usual. Sugar imported from Bengal and consumed in Malabar.

89.—We have to deplore the importation of sugars from Bombay, to the amount of Rs. 27,000, as I do not believe there is a country better adapted for the growth of sugar cane than Malabar and Canara.

REPORT on External Commerce of the Port of Madras for 1816–17.

The trade with Manilla has increased in 1816–17 considerably, sequent of the arrival there of the supply of specie, of which they were disappointed during the war. There has been an increase in the import of merchandize to the value of A. Rs. 80,125. The imports consisted of camphire, benjamin, pepper, sugar, copper, and tutenague, liquors, &c.

REPORT of the Collector at Calicut, on the Trade of Malabar and Canara, in 1816–17.

There was an increase in the importation of soft sugar, chiefly from Bengal, of Rs. 15,776.

Value of sugar candy imported into Malabar and Canara in 1816–17, Rs. 2,409.

Value of soft sugar imported into Malabar and Canara in 1816–17, Rs. 28,370.

The increase in the importation of sugar from Bengal, amounted to Rs. 13,000.

This year shews also an increase in the importation of sugar, to the amount of Rs. 13,000, from the eastward.

The imports from Manilla were sugar, Rs. 40,659; rum, Rs. 2,941, with a few other articles.

REPORT on the External Commerce of Malabar and Canara for 1817–18.

The importation of sugar from Bengal, decreased Rs. 15,209.

REPORT on the External Commerce of the Port of Madras, for 1818–19.

The exports to London increased Rs. 5,16,216; chiefly in cotton, liquors, wines, pearls, cardamoms, sugar and indigo.

REPORT on the External Commerce of the Port of Madras for 1817–18.

Par. 5.—The piece goods of the Coromandel coast are so well adapted to the Eastern, American, and foreign European markets, that I can only attribute the stationary condition of this trade to the heavy duties to which it is subject, when compared with those levied in Bengal upon the same description of articles. Piece goods exported on British vessels from this coast (unless to the United Kingdom) are subject to a duty of eight per cent, from which no drawback is allowed. In Calcutta the duty is $7\frac{1}{2}$ per cent, out of which five per cent is drawn back on exportation. Piece goods exported from Madras on foreign vessels, pay in the first instance eight per cent import duty, and upon their exportation, another eight per cent, making a total of 16 per cent. In Calcutta, under the same circumstances, they are subject to a duty of $7\frac{1}{2}$ per cent in the first instance, and a drawback is allowed upon exportation of $2\frac{1}{2}$ per cent. In Calcutta, therefore, the duty ultimately retained, is on a British vessel $2\frac{1}{2}$ per cent; on a foreign vessel, five per cent; whereas at Madras it is as follows:—on a British ship, eight per cent; on a foreign ship, 16 per cent.

This alone is sufficient to drive the merchant from the port of Madras, where he might procure a better article; to another, where he will procure it upon more reasonable terms, though of inferior quality.

11.—It cannot be expected that the trade of France to this port can increase, while foreign vessels are allowed to send their cargoes from Pondicherry, and receive the returns by country vessels, paying only the duties levied on British ships.

EXTRACTS from Reports on the External Commerce, under the Presidency of Bombay.

External Commerce of Bombay.

REPORT for 1802–3.

Par. 15.—AN increase of Rs. 6,92,583, owing to a greater number of shipping having imported from Bengal. Adverting, however, to the particular articles, it appears, that above eight lacks of grain, and two lacks of piece goods, have been imported more this year than the last; while the imports of sugar have decreased nearly four lacs, leaving a net increase of the sum above noticed.

35.—The exports to the Persian gulph appear to have increased in the sum of Rs. 20,628. Adverting to the particular items, sugar has increased about Rs. 80,000, and pepper Rs. 40,000, making a gross increase of Rs. 120,000; from which must be deducted a decrease of about one lac of rupees in the article of piece goods, and the residue will give the net increase within the year.

REPORT for 1803–4.

Par. 9.—An increase of Rs. 1,86,285 in imports from Batavia; this increase is in sugar and pepper. The imports are rather the returns for cargoes from the other side of India, and of one Danish, and one Arab ship, which have imported from thence, than the returns for our own trade, as it appears that the exports thither had entirely ceased, even previous to the commencement of hostilities.

20.—The statements exhibit an increase of imports from Bengal to the amount of Rs. 13,32,912. This increase is not owing to any actual increase in the annual value of the trade with Bengal; on the contrary, the real value of the trade appears to have decreased about eleven lacs. On comparing the different articles of import, it will appear, that a sum exceeding twenty-four lacs, in grain, was imported more this year than the last; if, therefore, the trade upon the whole has only increased thirteen lacs, it follows that the other articles of import have decreased eleven lacs. Piece goods have decreased six lacs; raw silk, three lacks; sugar, one lac; and the remaining deficiency is in cloves, iron, indigo, rum, salt petre, and wine.

28.—The exports to Malabar and Canara decreased Rs. 151,959; a part of this deficiency appears to be in Europe articles, occasioned by the Malabar coast being dependent on the Presidency of Fort St. George, from whence the gentlemen belonging to that settlement begin to supply themelves. A large deficiency appears in coffee, cotton, and sugar.

32.—The exports to Bassein, and villages to the southward of Surat, increased Rs. 3,13,489. One half of this increase is in grain and other articles of food. There had previously been an increase in the importation of grain. The considerable increase in the exportation of that article to the same place is thus accounted for; immediately on the opening of the season last year, grain, oil, ghee, &c. rose so very considerably, that whatever stock remained on hand in the adjacent country, was immediately brought to market, without sufficiently considering the cause which led to this great increase of price. As the season advanced, and the small produce of the late scanty crop began to be consumed, the scarcity began to be felt, and this scarcity had, before the closing of the season, arisen to a famine; it was therefore necessary to have recourse to Bombay for those very articles which they in the beginning of the season, sent thither, and in much greater quantities. The other half of the increase appears in articles for manufacture, and internal consumption, such as cochineal, tin, beetle nut, piece goods, pepper, and sugar.

37.—The exports to the northern ports of Guzerat decreased Rs. 21,62,354, of which about twelve lacs in treasure. This deficiency in merchandize is in cochineal, false pearls, piece goods, raw silk, sugar, and tutenague; and is solely to be ascribed to the late arrival of the China fleet, which did not admit of including the exports of China goods before the period of closing the accounts. This is equally the cause of the decrease in the exportation of treasure.

41.—The exports to the Persian gulph decreased this year Rs. 3,19,009. The market for piece goods in the gulph appears on the decline. I had to notice a decrease of one lac in this article, in my last year's report; this year the decrease amounts to two lacs. Pepper has increased about sixty thousand rupees; but sugar, cassia, China ware, and all the other China articles, decreased nearly two lacs; this is owing to the very late arrival of the China fleet having very much enhanced the price in this market, before the closing of the season for the gulph.

REPORT for 1804–5.

Par. 11.—The greatest part of the increase of imports from China is in bullion; owing, partly to the great demand for it for the last two years, and partly to a failure in the crop of sugar cane in China during the last season, by which means the price of this staple article was not only considerably enhanced in the Canton market, so as to leave no profit thereon, but it was not even to be had in any large quantities at any rate.

18.—There was an increase of imports from Bengal this year, to the amount of Rs. 38,09,436. In general the extent of the imports from Bengal fluctuates between twenty-five and thirty-five lacs of rupees. That this amount has been considerably exceeded within the last two years, is by no means ascribable to an actual increase in the trade, but to the famine which for the last two years raged throughout the surrounding countries Grain alone gives an increase of twenty-six lacs, the remaining twelve lacs are in piece goods, raw silk, sugar, rum, indigo, and spices. This would, however,

argue

argue an increase of trade, were it not that the report of last year had to record a decrease under this head of eleven lacs, and in exactly the same articles which now give an increase of twelve lacs. External Commerce of Bombay.

21.—The imports from the coast of Coromandel increased Rs. 3,20,510; the principal part of this increase is in grain, imported on account of the famine which prevailed here, as in years of ordinary plenty, on this side of India, it is not unfrequent to supply Madras with dry grain from hence, chiefly wheat. There is, however, an increase in the article of piece goods, to the extent of sixty-five thousand rupees, and in the articles of brandy, benjamin, and sugar, together, a further increase of about the same extent.

28.—The exports to Goa and the Concan increased Rs. 17,89,579, of which ten lacs is in grain; the remainder of the increase appears in broad cloth, spices, sugar, piece goods, raw silk, brandy, cocoa nuts, dates, and seeds.

33.—The exports to Surat also increased Rs. 15,91,782, of which eight lacs appear in treasure, and sent thither in part payment of the cotton purchased in the Guzerat. Grain appears also to have increased one lac and thirty thousand rupees, which is solely ascribable to the general scarcity which prevailed even thus far north. The remainder of the increase is in Bengal piece goods, sugar, and raw silk, and exceeds six lacs of rupees. The accounts of last year exhibited a decrease in these articles, and was attributed to the war and famine, which having either subsided, or been happily removed far distant, commerce once more resumed its wonted activity.

43.—There was an increase in the exports to the Persian gulph of Rs. 1,24,388, and appears in three articles, sugar, cassia, and China ware. Last year's statements gave a more than correspondent decrease in these articles, which was ascribed to the late arrival of the China fleet.

REPORT for 1805–6.

Par. 24.—Decrease of imports from Penang and Eastern Islands, to the extent of Rs. 5,02,694. Of this three lacs are in the article Batavia sugar, which the Danes and an American imported last year. The remainder of the decrease consists in pepper, spices, and beetle nut from the eastward.

30.—Decrease of imports from the coast of Coromandel, Rs. 2,22,358, the greatest part of this decrease is in grain, the importation of which ceased with the alarming cause that produced it, viz. the famine. There appears, likewise, a decrease in brandy and sugar, to the extent of Rs. 43,000; but this arises from an over speculation last year.

50.—To the increase of exports to Guzerat (*viz.* Rs. 13,64,629) within three years, the Europe staples, broad cloth, copper, iron, and steel, have contributed about two lacs;—the Bengal and China trade of piece goods, raw silk, sugar, gunnies, and rice, about five lacs;—the Malabar trade, two lacs in pepper, cardamoms and copra;—the Gulph trade, in lamella and dates, one lac;—the African trade, in elephants teeth, half a lac;—and Eastern produce, spices, about 25,000 rupees. This, with about three lacs of treasure, constitute the increase above stated.

55.—The exports to the Persian gulph shew an increase of Rs. 3,07,509, which appears in the two staple articles of this trade, piece goods and sugar.

REPORT for 1806–7, not received.

REPORT for 1807–8.

Par. 10.—The increase in the most extensive and important branch of commerce, viz. with China, amounts this season, in the imports, to the considerable sum of Rs. 14,06,461. The following articles more than supply this excess, viz.—

Treasure - - - -	Rs. 8,86,931
Tutenague - - -	3,38,435
Piece goods - - -	1,34,439
Sugar - - - -	1,32,905

15.—There was a decrease in the imports from Bengal this quarter to the considerable and serious extent of Rs. 18,93,249.

Previously to my endeavouring to trace the causes to which the above important deficiency may be ascribed, it is only proper to premise, that the diminished scale of import in question arises, to a certain extent, from the too successful depredations of the late French national frigate, La Piedmontese, and privateers in the Bay of Bengal and off Point de Galle; but in a most material degree from the unfavourable rate of exchange between the two presidencies, which has rendered all speculations to this quarter of a nature so ruinous as to discourage perseverance therein. The exchange for the year 1807–8 was no less than 12 and 13 per cent against Calcutta, which, added to other local and incidental charges, far more than counterbalanced any possible gain that could accrue from the out turn of any consignment.

As a further cause of the import decrease, the unsettled state of the Persian and Arabian gulphs may be adduced; for the greater portion of the Bengal imports are re-exported hither.

The articles which have contributed in the greatest proportions to the decrease above adverted to, are the four following, which of themselves more than constitute the deficiency in question, viz.—

Sugar - - - - -	Rs. 9,52,894
Raw silk - - - -	5,45,920
Grain - - - - -	2,49,361
Piece goods - - -	1,77,952

 17.—The

External Commerce of Bombay.

17.—The imports appear from the coast of Coromandel, under this head, to have undergone a decrease in their total amount of Rs. 1,57,984, which the four under-mentioned articles of themselves more than give; namely,—

Wine	Rs. 96,949
Arrack	37,845
Eatables	18,042
Sugar	10,174

22.—Malabar. The exports to this quarter exhibit an increase, to the extent of Rs. 2,50,288, of which sugar amounted to Rs. 14,013.

24.—The exportation of sugar to Goa and the Concan, decreased Rs. 85,352.

28.—The exports to Surat decreased to the considerable extent of Rs. 9,06,482; of which, Sugar, Rs. 3,77,795; Quicksilver, Rs. 2,12,633; Raw silk, Rs. 1,71,591; Piece goods, Rs. 1,40,044.

32.—Cutch. Decrease in the exports, to the extent of Rs. 1,50,928; in the single article "grain," an increase of Rs. 2,25,558; it hence would appear, that the staple items, classed under the general denomination (merchandize,) must have suffered in a proportionate degree, as by a comparison of the last quoted Statement for the years 1806–7 and 1807–8 will be ascertained, and be found to consist principally in the under-mentioned heads, viz.—

Sugar	2,63,608
Cocoa nuts	53,485
Treasure	32,916
Iron	21,287

REPORT for 1808–9.

Par. 14.—Bengal imports. An ultimate increase in the import trade, to the extent of Rs. 2,21,735, will be found under this head, although a decrease of Rs. 3,06,149 in the article "grain" alone, will appear, this season, on an inspection of Statement No. 3, for the years 1807–8 and 1808–9.

The deficiency above noticed in the article grain, will be found on examination of the Statement last mentioned, so amply counterbalanced by the improvement and extension of other imports, that it is evident the difference between the total import trade for the years above quoted, is wholly attributable to enlarged speculations in the other staple commodities, falling within the year 1808–9, of which the two following articles (as yielding the greatest proportions) are selected, and which of themselves most amply supply the difference of excess alluded to, viz.—

Piece goods	Rs. 5,33,276
Raw silk	2,02,497

Sugar, however, presents a deficiency this season in amount import value of Rs. 2,90,782, more than covering the improvement above pointed out in the preceding articles.

16.—There was a deficiency in the importation of sugar from the coast of Coromandel, to the extent of Rs. 9,836.

21.—Reduction in the exportation of sugar to Malabar and Canara, to the extent of Rs. 5,516.

23.—Increase in the exportation of sugar to Goa and the Concan, to the extent of Rs. 62,011.

25.—Decrease in the exportation of sugar to Bassein, to the extent of Rs. 5,869.

27.—Increase in the exportation of sugar to Surat, to the extent of Rs. 1,64,663.

31.—Decrease in the exportation of sugar to Cutch and Scind, to the extent of Rs. 37,335.

33.—The exports to the Persian Gulph give an actual increase of Rs. 3,24,903, of which,

Sugar	Rs. 1,48,710
Piece goods	1,41,545
Grain	1,31,075

35.—Exhibits an ultimate increase in the exports to the Arabian Gulph, of Rs. 2,51,932, although under the head (Treasure), a deficit this season of Rs. 22,485 will appear by the same document, leaving therefore the actual amount difference between the years 1807–8 and 1808–9, in the staple articles of trade, to this quarter, of Rs. 2,74,417, of which the under-mentioned articles collectively more than give the excess pointed out.

Grain	Rs. 89,176
Piece goods	64,791
Cotton	41,186
Lead	25,730
Broad cloth	24,465
Sugar	21,478
Iron	17,057

REPORT for 1809–10.

Par. 22.—The aggregate imports from China decreased Rs. 7,34,874; although of Treasure alone there was an increase of Rs. 5,03,078. It is hence obvious, that the more profitabl staple imports (yielding revenue,) proportionably declined; in proof of which, the under-

under-mentioned articles have contributed in the following proportions to the difference above noticed, and which are accordingly selected, namely— External Commerce of Bombay.

Sugar	Rs. 5,77,919
Nankeens	2,34,650
Piece goods	1,56,234
Cloves	1,69,644
Lead	96,687
Tutenague	54,646
Raw silk	54,079
	13,43,859.

28.—It will appear that the trade from Bengal has experienced, not merely a material, but almost a complete reduction in its amount, import value, to the great extent of Rs. 9,87,145, although for the years 1808–9, and 1809–10, the head "Grain" will be found to give this season, an increase of Rs. 2,45,114, or about Candies 5,934. The actual decrease above stated, notwithstanding the excess in grain has been ascertained, and found, upon examination of the last quoted document, to fall exclusively on the three under-mentioned articles, which of themselves amply account for the difference of decrease in question, namely,—

Raw silk	7,38,417
Piece goods	3,62,131
Rum	1,57,770
	12,58,318.

The causes which may be stated as tending to the important deficiency above noticed, are, that instead of Bombay being as formerly, the grand depôt for all goods required from the Coromandel Coast and Bengal, for the ultimate destination and consumption of the Persian and Arabian Gulphs, this commerce is now carried on by the Arabs direct.

35.—The exports to Malabar and Canara, have increased Rs. 1,27,716, in their ultimate amount, notwithstanding the article "Treasure" has this season declined in the export amount, value of Rs. 2,43,674. The staple items of trade would hence seem to have in a correspondent degree, improved and extended, as for instance, sugar, Rs. 29,845, and which on a comparison of the year 1808-9, with that of 1809–10, will be found amply comprised in the above mentioned article.

41.—The exports to Surat, suffered Rs. 7,87,046 in their ultimate amount, to which the under-mentioned articles have been found to have contributed in the largest proportions. They are, in consequences selected, as more than counterbalancing the above deficiency, namely,

Raw silk	3,18,445
Sugar	1,53,097
Piece goods	1,02,455
Treasure	70,053
Beetle nut	47,788
Pepper	42,869
Broad cloth	39,575
Vermillion	34,780
	8,09,062.

43.—The exports to Guzerat decreased, Rs. 4,41,974, in their ultimate amount; the four following items will abundantly supply the deficiency in question; namely,

Sugar	1,51,255
Treasure	1,39,074
Pepper	1,25,284
Raw silk	1,24,163
	5,39,776

REPORT for 1810–11.

Par. 21.—There was a decrease of Rs. 13,22,660, as will appear in the imports from Bengal, under the head of grain, a deficiency will be presented of Rs. 3,92,535, in addition to which the further reduction on articles yielding a revenue, has fallen on the following:—

Piece goods	7,81,520
Sugar	1,54,452
Gunnies	58,285
	9,94,257.

24.—There appears an increase of Rs. 1,13,398, in the exports to the coast of Coromandel; the same has proceeded principally from the following article; viz.

Sugar 10,567, &c.

38.—A reduction of Rs. 2,88,111 appear in the exports to Cutch and Scind, which deficiency, the following articles will be found more than to comprize, the first of which (sugar) having suffered to a greater extent, from the decrease in the imports, under this head, from Bengal.

Sugar	1,05,864
Grain	89,509
Raw silk	45,426
Piece goods	20,489
Steel	19,702
Beetle nut	19,048
	3,00,038.

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40.—The exports to the Persian gulph decreased to the amount of Rs. 7,49,517, which fell to the greatest extent, on the following items; increased, no doubt, in consequence of the heavy failure in the important articles of piece goods and sugar, under the head of Bengal.

Sugar	3,22,440	
Piece goods	2,53,726	
Grain	74,984	
Long ells	41,105	
Broad cloth	37,148	
Cardemoms	27,778	
		7,57,181.

44.—The exports to the Coast of Africa decreased Rs. 35,375, falling chiefly on the following articles:—

Iron	6,280
China ware	6,210
Bangles, glass, horn, and ivory	6,150
Piece goods	5,573
Sugar	3,589, &c.

REPORT for 1811–12.

Par. 4.—Within the present official year, 1811–12, and up to the 30th of September last the revenues of this presidency have derived very considerable advantage, from our recently acquired conquests of Java, and the French islands, principally from imports of sugar and spices, to the amount of upwards of eleven lacs of rupees, on which government duties have been collected, as will be more fully adverted to under the heads of Pinang and the Eastern Islands, and the Isles of France and Bourbon. A large proportion of these imports, however, in all probability, have been made from the accumulation of years, in consequence of our naval superiority, so that they can hardly be considered to form any criterion, by which to estimate the value of the trade from the quarter here alluded to in future, or how far the article of sugar is likely to affect the hitherto extensive supply of that commodity from Bengal to this side of India.

14.—There was an increase of Rs. 14,95,275, in the imports from the Brazils, principally in the article of treasure; and in merchandize, yielding a revenue, the sum of Rs. 1,20,402.

16.—Sugar to the extent of Rs. 1,118, was imported into Bombay from the Isle of France.

25.—The imports from Penang and Eastward, decreased Rs. 33,872; but no correct comparison can be drawn, between the present and preceding year, in consequence of the amount of Rs. 1,79,621, having been deducted from 1810–11, as belonging to 1809–10; it may here be important, however, to state, that in the article of sugar during the present official year, imports have taken place from Batavia, included under the head of Penang and the Eastern Islands, to the value of upwards of two lacs of rupees, being part of the captured property at that island.

29.—Government duties continue to be levied on the Bengal trade. The principal articles of commerce from that presidency, with the exception of a few trifling supplies for private individuals, passed free of duties into Bombay until November 1810, when certificates of exemption were first discontinued from Fort William. Since the period here alluded to, government customs, and town duty, have been collected on the following:—

Raw silk, piece-goods, sugar. — 3½ per cent customs, and 4 per cent town duty, entitled to a drawback of the full amount of the latter levy, in the event of re-exportation.

Gunnies — 3½ per cent customs.

Sugar imported from Bengal:

In 1803–4	Rs. 49,060		
1804–5	4,66,788		
1805–6	12,04,799		
		17,20,647	
Average of three years		Rs.	5,73,549
1806–7	Rs. 18,41,124		
1807–8	8,88,230		
1808–9	5,97,448		
		33,26,802	
Average of three years		Rs.	11,08,934
1809–10	Rs. 6,51,649		
1810–11	4,97,197		
1811–12	2,43,688		
		13,92,534	
Average of three years		Rs.	4,64,178

35.—The exports to Ceylon present a decrease of Rs. 79,189; of which, sugar, Rs. 3,510, &c.

45.—There was an increase in the exports to the Persian gulph, to the amount of Rs. 9,26,252, occasioned in all probability by a nearly corresponding decrease in the principal articles of export to this quarter during the preceding season, 1810–11; the increase in sugar was Rs. 2,64,341.

49.—An

49.—An increase in exports to the coast of Africa, to the amount of Rs. 12,766; of which sugar Rs. 1,882, &c.

External Commerce of Bombay.

54.—The exports to the Northern Ports of Guzerat, will be found to have decreased Rs. 3,74,721, falling chiefly in the heaviest proportions on the following articles:—

Sugar - - - - -	Rs. 2,34,259
Treasure - - - -	93,357
Iron - - - - -	48,151
	3,75,767

REPORT on the External Commerce of Surat, for 1812-13.

Par. 4.—There was a decrease in the importation of sugar from Bassein.

REPORT on the External Commerce of Bombay, for 1812-13.

Par. 19.—There was a decrease of Rs. 13,04,370 in the value of the imports from Brazils, proceeding principally from the circumstance of a far less amount of treasure having been landed here by the two ships from thence; of which

Treasure - - - -	Rs. 12,55,731
Sugar - - - -	57,287
	13,13,018

23.—The imports from China decreased during the year 1812-13, in the sum of Rs. 13,95,121, which fell in the largest proportions on

Treasure - - - - -	Rs. 5,82,670
Sugar - - - - -	3,41,398
Piece goods - - - -	2,65,663

25.—A decrease has taken place in the trade from Manilla to the amount of Rs. 1,94,140, in consequence of no direct arrivals from that island, during the year 1812–13; sufficiently accounted for, by the import of the following articles in the season 1811–12:

Sugar - - - - -	Rs. 1,30,970
Indigo - - - - -	18,790

27.—Penang Eastern Islands.—The trade from these islands increased in the sum of Rs. 5,00,001 during the latter season; of which

Sugar - - - - -	Rs. 140,090, &c.

30.—Increase in the importation of sugar from Bengal, S. Rs. 3,50,684.

32.—Increase in the importation of sugar from the Coast of Coromandel, S. Rs. 52,038.

42.—The exports to the Persian gulph suffered in the amount of Rs. 1,35,086, more than accounted for in the article of sugar alone, to the value of Rs. 1,40,555. In these also an increase was reported during the last season, of upwards of Rs. 9,26,000, included in which sum the item of sugar, as above selected for 1812–13, stood at Rs. 2,64,000; more exported within the year 1811-12, than during the then preceding.

44.—The exports to the Arabian gulph increased in the sum of S.Rs. 78,296, being more than comprized in the article of sugar, to the amount of Rs. 83,305.

REPORT on the External Commerce of Surat, for 1813–14.

There was a decrease in the importation of sugar from Bassein.

REPORT on the External Commerce under the Presidency of Bombay, for 1813-14.

Par. 1.—The circumstances of the recent important change in the affairs of Europe, and the opening of the trade between Great Britain and India, occasioned a degree of activity at this port, which has been unknown for many years past; and within the last eighteen months, or from the 30th of April 1813 to the 31st of October 1814, the total value of merchandize and treasure exported by individuals from hence to London, has amounted to upwards of Rs. 52,56,000; of which,

Sugar - - - - -	Rs. 2,09,486, &c.

2.—The ships in private trade belonging to individuals, having been allowed to clear from hence for England, since April 1814, agreeably to the late act 33 Geo. 3, c. 155, the greater proportion of the above amount has been exported from Bombay within the last seven months; and from the commencement of this new period in the commerce of India, it may be useful and satisfactory to submit, that thus early, goods and treasure have been exported by the houses of agency, and a few native merchants in this settlement, to the amount of upwards of Rs. 37,83,576, consisting chiefly of the following articles:

Pepper - - - - - -	14,34,051
Coffee - - - - - -	6,24,180
Sugar - - - - - -	2,09,486

4.—The town duty of 4 per cent being liable to drawback for an unlimited period on re-export, under certain restrictions in Regulation I, of 1810; the great decrease under this head has been also affected by the reduction in the article of sugar, but principally from the state of affairs in Europe having occasioned a larger export than usual of goods entitled to the refund above alluded to.

12.—The exportation of sugar to the Isle of France, decreased, S. Rs. 2,500.

15.—The importation of sugar from Manilla decreased S. Rs. 29,370.

18.—The imports from Bengal have decreased Rs. 17,98,461, principally from the circumstances of the famine during the preceding season, having drawn so great a proportion of

External Commerce of Bombay.

shipping to this port with grain, that exclusive of the value of that article, the usual description of goods, consisting chiefly of raw silk, sugar, &c. increased also in reference to the year 1811-12, upwards of Rs. 16,59,000.

33.—The exports to the Persian gulf decreased Rs. 3,32,580, occasioned principally by a very large export of sugar during the preceding year 1812-13, to the amount of upwards of Rs. 5,71,000; on which article the reduction has chiefly fallen within the present season 1813-14, as well as on coffee, no doubt from the more advantageous prospect of export to Europe.

Sugar	2,49,958
Cotton	78,582
Pepper	24,805
	3,53,345

40.—The exports to Surat have decreased Rs. 65,552, nearly comprized in the reduction of the article of sugar, to the amount of Rs. 65,206.

REPORT on the External Commerce of Guzerat in 1814-15.

The importation of soft sugar from Bassein increased.

REMARKS on the External Commerce of Guzerat in 1814-15.

The import of molasses, in 1813-14, amounted to Rs. 80,000, and in 1814-15 to only Rs. 7,915.

REPORT on the External Commerce under the Presidency of Bombay, for 1814-15.

Par. 4.—The comparative statement of the value of exports for the years 1813-14, and 1814-15, exhibit a nett ultimate increase of Rs. 12,71,820 in the external commerce of individuals to places beyond the territories subject to the government of this presidency, which has been occasioned principally by a very extensive export of treasure to Bengal, in consequence of an unusual scarcity of specie at that presidency; as well as from a large amount of the same article to Penang, and of merchandize exported to China to provide returns in sugar, pepper, raw silk, and other Eastern produce for the Europe market from hence.

6.—The exportation of merchandize (consisting of pepper, coffee, sugar, indigo, &c.) to London, increased Rs. 14,20,000.

14.—The value of the imports from China has improved Rs. 9,47,275, principally on articles for the Europe market, in the speculation of which I conclude this increase may have been formed.

Raw silk	4,46,608
Sugar	2,48,035
Cassia	1,35,786
Camphire	1,35,662
	9,66,091

16.—An inconsiderable import, only to the extent of Rs. 72,934 having taken place from Manilla in 1813-14, consisting principally of sugar, to the value of Rs. 55,000. The present season, 1814-15, will exhibit an increase from this quarter of Rs. 4,89,228, chiefly to be attributed to the prospects of the Europe market for sugar and indigo. The following articles compose, in the greatest proportions, the improvement herein reported.

Sugar	310,828

17.—An increase of Rs. 1,73,435 in the value of the imports from Penang, during the official year 1814-15, which may be ascribed to the same cause as adverted to in the latter part of the above paragraph, and further established by the two following articles, chiefly comprizing this excess:—

Pepper	1,60,529
Sugar	69,984
	2,30,513

19.—Deducting the amount of grain, there remains a very considerable increase in the trade from Bengal in favour of 1814-15, particularly in the articles of raw silk, sugar and indigo, a large proportion of which has been exported from hence to London.

32.—The exports will be found to have decreased, Rs. 6,89,111; which I can only ascribe to the present unsettled state of Cutch and Scind, and to a great failure in the harvests in Cutch. The defalcation has fallen chiefly on the following articles:—

Grain	1,55,852
Piece goods	1,02,068
Raw silk	67,061
Sugar	60,678, &c.

36.—The exports to the Arabian Gulph have increased Rs. 3,55,751; in the articles principally comprizing this amount, the unusual one of coffee will be seen to the value of Rs. 1,71,420, sent from Bombay to Suez, in all probability for Egypt, where a great scarcity of that article was known to have been felt; no doubt, from the recent extensive exports to India; or, possibly, the speculation may have been entered into (under the apprehension of

of a stop to the intercourse between England and France) with the intention of being forwarded to the Mediterranean, and thence to some of the ports in Europe:—

Coffee	1,71,420
Cotton	75,781
Sugar	60,329
Cassia	31,144
Shawls	15,963
	3,54,637

REMARKS on the Internal Commerce of Guzerat for 1814–15.

The importation of soft sugar increased, S. Rs. 24,389.

The importation of molasses decreased, S. Rs. 17,059, and of sugar candy, S. Rs. 10,053.

REPORT on the External Commerce of Surat, for 1815–16.

There was an increase in the importation of sugar and jaggree.

REPORT on the External Commerce under Bombay, for 1815–16.

Par. 19.—The chief import from this quarter (Manilla) during the present official year, has been, sugar to the amount of Rs. 4,78,057; and the fluctuation between the two seasons will be perceived to have been about Rs. 23,000, in favour of 1815–16.

34.—The exports to Cutch and Scind increased Rs. 3,97,432, of which sugar, Rs. 10,606.

38.—The exports to the Arabian gulph, decreased, Rs. 3,65,998, of which sugar, 55,890.

41.—The exports to Surat increased, Rs. 10,09,981, of which sugar 1,72,399.

REMARKS on the Internal Commerce of Guzerat, for 1815–16.

The importation of molasses increased, Rs. 15,033. The importation of soft sugar decreased Rs. 47,225.

REPORT on the External Commerce of Surat, for 1816–17.

There was a decrease in the importation of sugar from Bassein.

REMARKS on the External Commerce of Guzerat.

The chief article of which the import of last year has exceeded that of the former is goor, or jaggree. Most of these ports, by the treaty of Poonah, are now subject to the Honourable Company; and no doubt the facilities of communication which this change will create, as well as the confidence and industry which it will excite, will gradually lead to a great interchange of the staples of the different countries.

The increase in the importation from Bombay, was

Sugar	Rs. 45,600
Molasses	1,62,383.

REPORT on the External Commerce under Bombay, for 1816–17.

Par. 15.—The imports from Manilla decreased, Rs. 2,18,005, of which, sugar to the extent of Rs. 1,15,995.

17.—The imports from Penang and Eastern Islands, have increased Rs. 2,10,741, more than comprized in the two following articles:—

Tin	1,60,048
Sugar	1,24,124
	2,84,172.

25.—There was a decrease in the importation of jaggree molasses, from Bassein, &c. to the extent of Rs. 21,291.

28.—The exportation of sugar to the Persian gulph, decreased Rs. 70,617.

30.—The exportation of sugar to the Arabian gulph, decreased Rs. 65,717.

32.—There was an importation of rum from America, to the amount of Rs. 12,168.

35.—In the aggregate amount of exports to Surat, there has occurred an inconsiderable increase of Rs. 62,282, but in raw silk and sugar, a decrease appears of about Rs. 3,29,000, the value of both articles from Bengal and China having fallen off this season upwards of Rs. 8,43,000, may have tended to create this reduction.

REPORT on the External Commerce of Surat, for 1817–18.

The importation of sugar from Bassein, increased.

REPORT on the External Commerce under Bombay, for 1817–18.

Par. 8.—Sugar exported to France to the amount of S. Rs. 16,250.

14.—There has occurred an increase in the value of the imports from Manilla, of Rs. 1,00,179, principally in the two articles of sugar and treasure, to nearly corresponding amount.

16.—The imports from Bengal have deceased Rs. 9,54,201, chiefly in consequence of a reduction in the amount of the following articles, extensive consignments of which were made to this presidency in the preceding season:

Sugar	3,74,481
Indigo	2,80,564
Raw silk	2,40,439
Cloves	1,54,644
	10,50,128.

22.—In

External Commerce of Bombay.

22.—In the imports from Goa and Concan, a decrease took place of Rs. 6,30,883; of which, in jaggree molasses 76,104, and sugar 17,929.

26.—The exports to Cutch and Scind improved, Rs. 4,43,452; of which in sugar, Rs. 1,27,744, &c.

28.—The value of the exports to the Persian gulph increased, Rs. 4,18,149, of which, in sugar, Rs. 2,65,768.

REPORT on the External Commerce of Surat, for 1818–19.

The importation of soft sugar from Bassein, &c. decreased.

The exportation of sugar to Cambay increased.

REPORT on the External Commerce under Bombay, for 1818–19.

Par. 13.—The import trade from China has increased, Rs. 30,02,643, chiefly in the articles of treasure and sugar, Rs. 33,78,916, while the exports have decreased, Rs. 9 98,470, principally in cotton, to the value of Rs. 12,03,783, from the more favourable prospects of the European market at the commencement of the season.

21.—An inconsiderable decrease, of Rs. 57,423, will be perceived in the value of the imports from Cutch, and the exports have also decreased Rs. 5,85,344, chiefly from a reduction in the amount of piece goods, raw silk, and sugar, sent to that country in 1818–19.

24.—In the imports from the Arabian gulph there has been a decrease of Rs. 8,48,902, chiefly in treasure and quicksilver. The exports have also decreased, Rs. 2,81,555, principully in the former article, raw silk, shawls, sugar, and nankeens, occasioned in both instances by pretty extensive speculations in preceding season 1817–18, on the ships belonging to the pasha of Egypt.

27.—The exports to Panwell and the Concan increased to the amount of, Rs. 23,71,342, of which sugar, Rs. 1,50,062.

30.—The exports to Guzerat increased, Rs. 31,66,753 of which sugar, 3,58,761.

REPORT for 1819–20.

13.—Isles of France.—The imports from this quarter have increased, Rs. 2,30,602; of which, sugar, Rs. 67,118.

16.—The imports from Manilla have decreased, Rs. 6,15,630; of which, sugar, Rs. 4,18,356.

18.—The trade from Bengal has increased, Rs. 18,28,006; of which, sugar, Rs. 88,144.

25.—The exports to the Persian gulph, decreased, Rs. 2,86,008; of which, sugar, Rs. 50,559.

28.—The exports to America decreased, Rs. 12,27,774, of which sugar, Rs. 32,210.

REPORT on the External Commerce under Bombay, in 1820–21.

Par. 5.—A considerable decrease took place in the exportation of sugar to the United Kingdom.

13.—The imports from the Isles of France, show a very large decrease, of Rs. 3,22,181, in cloves and treasure; whilst under the head of sugar, an increase appeared of Rs. 1,49,325.

15.—China imports. A nett ultimate decrease in the import trade, will be discovered, to the amount of Rs. 20,45,802. The article treasure, alone, presents this season the considerable deficit of Rs. 8,46,641, whilst under the general head Merchandise, a decrease exists of Rs. 11,95,113, in the articles of sugar and cochineal; in the single article raw silk, an increase of Rs. 1,14,653.

17.—The imports from Manilla will be found to have increased in their ultimate amount, to Rs. 2,35,954, chiefly in sugar, but no export from hence.

20.—Bengal imports. Although the imports under this head, present a decrease of Rs. 14,28,967, the greatest part of this decreasc, is in the articles of raw silk, piece goods and sugar, to the extent of Rs. 14,00,000.

29.—Increase in the exportation of sugar to the Persian gulph.

35.—America. A decrease in the imports from this quarter, to the amount of Rs. 32,609, is in the article of wine. The exports have also decreased to the extent of Rs. 4,25,945; this deficiency is owing to an increased exportation of cotton from hence, last season, of Rs. 3,04,040; the cause of this decrease in the imports and exports, is wholly ascribable, to no vessels having arrived during the year 1820–21.

AN ACCOUNT

SHEWING THE

OFFICIAL VALUE OF SUGAR

Imported by Sea into the East India Company's Dominions in the Peninsula of Hindoostan, from Places not in the Peninsula.

ALSO,

AN ACCOUNT

SHEWING THE

OFFICIAL VALUE OF SUGAR

Exported by Sea from the East India Company's Dominions in the Peninsula of Hindoostan, to Places not in the Peninsula; distinguishing Particulars.

OFFICIAL VALUE of SUGAR Imported by Sea, into the East India Company's

YEAR.	PRESIDENCY.	North America.	South America.	Arabian and Persian Gulphs.	Brazils.	Ceylon.	China.	Copenhagen
		Rupees.	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*
1795–6.	Bengal	1,580	- -	- -	- -	- -	25,170	- -
1796–7.	Bengal	- -	- -	- -	- -	- -	41,168	- -
1797–8.	Bengal	- -	- -	- -	- -	- -	27,778	- -
1798–9.	Bengal	- -	- -	- -	- -	- -	31,948	- -
1799–0.	Bengal	- -	- -	- -	- -	- -	29,965	- -
1800–1.	Bengal	- -	- -	- -	- -	- -	61,444	- -
1801–2.	Bengal	- -	- -	- -	- -	- -	30,603	- -
1802–3.	Bengal	- -	- -	- -	- -	- -	15,246	- -
	Fort St. George, & Subordinates	- -	- -	883	- -	457	97,025	- -
	Bombay and Surat	- -	- -	- -	- -	- -	15,46,415	- -
	Total	- -	- -	883	- -	457	16,58,686	- -
1803–4.	Bengal	- -	- -	- -	- -	- -	12,816	- -
	Fort St. George, & Subordinates	- -	- -	- -	- -	16	52,129	- -
	Bombay and Surat	- -	- -	- -	- -	- -	2,29,661	- -
	Total	-	- -	- -	- -	16	2,94,606	- -
1804–5.	Bengal	- -	- -	40	- -	- -	29,469	6,400
	Fort St. George, & Subordinates	- -	- -	24	- -	872	70,178	- -
	Bombay and Surat	- -	- -	500	- -	5,376	15,51,910	- -
	Total	- -	- -	564	- -	6,248	16,51,557	6,400
1805–6.	Bengal	- -	- -	- -	- -	- -	25,537	1,867
	Fort St. George, & Subordinates	488	- -	- -	- -	353	45,993	- -
	Bombay and Surat	- -	- -	- -	- -	- -	8,85,518	- -
	Total	488	- -	- -	- -	353	9,57,048	1,867
1806–7.	Bengal	- -	- -	- -	- -	- -	30,163	3,453
	Fort St. George, & Subordinates	- -	- -	- -	- -	10,003	68,710	- -
	Bombay and Surat	- -	- -	No Accounts, Ship lost.			—	—
	Total	- -	- -	- -	- -	10,003	98,873	3,453
1807–8.	Bengal	- -	- -	- -	- -	- -	19,310	- -
	Fort St. George, & Subordinates	- -	- -	- -	- -	3,060	50,556	- -
	Bombay and Surat	- -	- -	- -	- -	- -	18,65,593	- -
	Total	- -	- -	- -	- -	3,060	19,35,459	- -
1808–9.	Bengal	- -	- -	- -	- -	- -	56,480	- -
	Fort St. George, & Subordinates	- -	- -	- -	- -	263	71,344	- -
	Bombay and Surat	- -	- -	- -	- -	- -	15,26,327	- -
	Total	- -	- -	- -	- -	263	16,54,151	- -
1809–10.	Bengal	- -	- -	- -	- -	- -	50,823	- -
	Fort St. George, & Subordinates	- -	- -	89	- -	227	28,158	- -
	Bombay and Surat	- -	- -	- -	- -	459	9,48,408	- -
	Total	- -	- -	89	- -	686	10,27,389	- -
1810–11.	Bengal	- -	- -	- -	- -	- -	9,153	- -
	Fort St. George, & Subordinates	- -	- -	- -	- -	1,042	18,021	- -
	Bombay and Surat	- -	- -	11,859	17,866	- -	9,50,940	- -
	Total	- -	- -	11,859	17,866	1,042	9,78,114	- -

Dominions in the Peninsula of Hindoostan from Places not in the Peninsula.

Great Britain.	Hambro'.	Java.	Isle of France.	Malacca.	Maldive Islands.	Manilla.	Pegue.	Penang and Eastward.	Lisbon.	TOTAL.
Rupees.	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*
- -	- -	229	- -	- -	- -	- -	- -	4,864	- -	31,843
- -	- -	- -	- -	- -	- -	- -	- -	7,000	- -	48,168
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	27,778
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	31,948
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	29,965
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	61,444
- -	- -	5,148	- -	- -	- -	- -	- -	- -	- -	35,751
- -	- -	12,341	- -	- -	- -	- -	- -	670	- -	28,257
- -	12,500	1,47,703	- -	3	- -	10,217	7	30,204	- -	2,98,999
- -	- -	3,71,179	- -	- -	- -	- -	- -	6,032	- -	19,23,626
- -	12,500	5,31,223	- -	3	- -	10,217	7	36,906	- -	22,50,882
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	12,816
- -	- -	2,87,723	2,824	343	- -	- -	62	6,039	- -	3,49,136
- -	- -	4,50,003	- -	- -	- -	- -	- -	8,874	- -	6,88,538
- -	- -	7,37,726	2,824	343	- -	- -	62	14,913	- -	10,50,490
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	35,909
- -	- -	6,337	- -	- -	- -	- -	- -	6,016	- -	83,427
- -	- -	- -	- -	- -	- -	- -	- -	3,24,104	- -	18,81,890
- -	- -	6,337	- -	- -	- -	- -	- -	3,30,120	- -	20,01,226
- -	- -	- -	- -	- -	- -	160	- -	410	- -	27,974
- -	- -	13,865	- -	- -	- -	- -	- -	8,095	- -	68,794
- -	- -	- -	- -	- -	- -	- -	- -	31,571	- -	9,17,089
- -	- -	13,865	- -	- -	- -	160	- -	40,076	- -	10,13,857
- -	- -	- -	- -	- -	- -	- -	- -	6,281	- -	39,897
- -	- -	1,950	- -	- -	- -	- -	109	14,712	- -	95,484
—	—	—	—	—	—	—	—	—	—	—
- -	- -	1,950	- -	- -	- -	- -	109	20,993	- -	1,35,381
- -	- -	- -	- -	- -	- -	- -	- -	8,682	- -	27,992
- -	- -	38,834	- -	- -	52	- -	- -	17,951	- -	1,10,453
- -	- -	- -	- -	- -	- -	- -	- -	54,956	- -	19,20,549
- -	- -	38,834	- -	- -	52	- -	- -	81,589	- -	20,58,994
- -	- -	- -	- -	- -	- -	- -	- -	1,584	- -	58,064
- -	- -	- -	- -	- -	- -	- -	- -	8,319	- -	79,926
- -	- -	- -	- -	- -	- -	- -	- -	14,477	- -	15,40,804
- -	- -	- -	- -	- -	- -	- -	- -	24,380	- -	16,78,794
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	50,823
- -	- -	- -	- -	- -	- -	- -	595	23,283	- -	52,352
- -	- -	- -	- -	- -	- -	72,690	- -	1,30,252	5,639	11,57,448
- -	- -	- -	- -	- -	- -	72,690	595	1,53,535	5,639	12,60,623
- -	- -	- -	- -	- -	- -	42,630	- -	- -	- -	51,783
- -	- -	- -	- -	- -	- -	32,854	- -	23,871	- -	75,788
- -	- -	- -	- -	- -	- -	- -	- -	36,203	- -	10,16,868
- -	- -	- -	- -	- -	- -	75,484	- -	60,074	- -	11,44,439

Official Value of Sugar Imported—*continued.*

YEAR.	PRESIDENCY.	North America.	South America.	Arabian and Persian Gulphs.	Brazils.	Ceylon.	China.	Copenhagen
		Rupees.	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*
1811–2.	Bengal	-	-	-	-	-	61,470	-
	Fort St. George, & Subordinates	-	-	1,706	-	-	34,781	-
	Bombay and Surat	-	-	-	1,20,525	-	4,92,677	-
	Total	-	-	1,706	1,20,525	-	5,88,928	-
1812–3.	Bengal	-	-	-	-	-	30,763	-
	Fort St. George, & Subordinates	-	-	-	-	-	13,993	-
	Bombay and Surat	-	-	-	73,253	-	1,51,279	-
	Total	-	-	-	73,253	-	1,96,035	-
1813–4.	Bengal	-	-	-	-	-	30,112	-
	Fort St. George, & Subordinates	-	-	-	1,228	-	22,974	-
	Bombay and Surat	-	-	-	-	-	4,92,338	-
	Total	-	-	-	1,228	-	5,45,424	-
1814–5.	Bengal	-	-	-	-	-	29,379	-
	Fort St. George, & Subordinates	-	-	-	-	3,304	19,850	-
	Bombay and Surat	-	-	-	-	-	7,40,373	-
	Total	-	-	-	-	3,304	7,89,602	-
1815–6.	Bengal	-	-	-	-	-	17,361	-
	Fort St. George, & Subordinates	-	-	-	-	-	48,365	-
	Bombay and Surat	-	-	-	-	-	8,78,329	-
	Total	-	-	-	-	-	9,44,055	-
1816–7.	Bengal	-	-	-	-	-	22,619	-
	Fort St. George, & Subordinates	-	-	-	-	-	1,220	-
	Bombay and Surat	-	-	-	-	-	6,10,661	-
	Total	-	-	-	-	-	6,34,500	-
1817–8.	Bengal	-	-	-	-	-	47,934	-
	Fort St. George, & Subordinates	-	-	-	-	-	50,634	-
	Bombay and Surat	-	-	-	22,694	517	8,65,962	-
	Total	-	-	-	22,694	517	9,64,530	-
1818–9.	Bengal	-	-	-	-	-	54,209	-
	Fort St. George, & Subordinates	-	-	-	-	-	15,370	-
	Bombay and Surat	-	-	-	-	121	19,90,861	-
	Total	-	-	-	-	121	20,60,440	-
1819–20.	Bengal	-	14,175	-	-	-	82,543	-
	Fort St. George, & Subordinates	-	-	-	-	1,123	-	-
	Bombay and Surat	-	-	1,799	-	-	19,24,906	-
	Total	-	14,175	1,799	-	1,123	20,07,449	-
1820–1.	Bengal	-	-	Accounts not received.			-	-
	Fort St. George, & Subordinates	-	-	Accounts not received.			-	-
	Bombay and Surat	-	-	17,450	-	-	970,767	-
	Total	-	-	-	-	-	-	-

Official Value of Sugar Imported—*continued.*

Great Britain.	Hambro'.	Java.	Isle of France.	Malacca.	Maldive Islands.	Manilla.	Pegue.	Penang and Eastward.	Lisbon.	TOTAL.
Rupees.	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*
- -	- -	- -	- -	- -	- -	- -	- -	1,628	- -	63,098
- -	- -	20	- -	- -	- -	21,036	- -	29,993	- -	87,536
- -	- -	- -	1,118	- -	- -	1,56,667	- -	2,52,009	- -	10,22,996
- -	- -	20	1,118	- -	- -	1,77,703	- -	2,83,630	- -	11,73,630
- -	- -	265	- -	- -	- -	- -	- -	4,680	- -	35,708
- -	- -	97,215	- -	- -	- -	- -	- -	- -	- -	1,11,208
- -	- -	- -	24,315	- -	- -	25,697	- -	3,92,099	- -	6,66,643
- -	- -	97,480	24,315	- -	- -	25,697	- -	3,96,779	- -	8,13,559
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	30,112
- -	- -	51,748	1,431	- -	- -	5,170	- -	27,900	- -	1,10,451
114	- -	- -	252	- -	- -	55,067	- -	92,856	- -	6,40,627
114	- -	51,748	1,683	- -	- -	60,237	- -	1,20,756	- -	7,81,190
- -	- -	5,400	- -	- -	- -	- -	- -	- -	- -	34,779
- -	- -	12,958	- -	- -	- -	- -	- -	22,851	- -	58,963
- -	- -	- -	- -	- -	- -	3,65,895	- -	1,62,840	- -	12,69,108
- -	- -	18,358	- -	- -	- -	3,65,895	- -	1,85,691	- -	13,62,850
- -	- -	858	- -	- -	- -	- -	- -	- -	- -	18,219
- -	- -	- -	- -	- -	- -	16,355	- -	28,682	- -	93,402
554	- -	- -	- -	- -	- -	4,78,057	- -	1,27,293	- -	14,84,233
554	- -	858	- -	- -	- -	4,94,412	- -	1,55,975	- -	15,95,854
- -	- -	- -	- -	- -	- -	- -	- -	3,636	- -	26,255
- -	- -	- -	- -	- -	- -	7,185	- -	6,819	- -	15,224
- -	- -	- -	- -	- -	- -	3,62,062	- -	2,61,371	- -	12,34,094
- -	- -	- -	- -	- -	- -	3,69,247	- -	2,71,826	- -	12,75,573
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	47,934
- -	- -	- -	- -	- -	- -	40,659	- -	24,268	- -	1,15,561
- -	- -	- -	3,285	- -	- -	4,32,403	- -	1,44,024	- -	14,68,885
- -	- -	- -	3,285	- -	- -	4,73,062	- -	1,68,292	- -	16,32,380
- -	- -	- -	- -	- -	- -	16,875	- -	- -	- -	71,084
- -	- -	- -	- -	- -	- -	36,279	- -	4,201	- -	55,850
- -	- -	- -	- -	- -	- -	4,18,356	- -	44,386	- -	24,53,724
- -	- -	- -	- -	- -	- -	4,71,510	- -	48,587	- -	25,80,658
- -	- -	- -	- -	- -	- -	- -	- -	1,393	- -	98,111
- -	- -	15,392	- -	- -	- -	- -	- -	34,147	- -	50,662
- -	- -	- -	67,118	- -	- -	- -	- -	1,51,391	- -	21,45,214
- -	- -	15,392	67,118	- -	- -	- -	- -	1,86,931	- -	22,93,987
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
110	- -	- -	2,16,443	- -	- -	1,86,626	- -	2,40,124	- -	16,31,520
-	-	-	-	-	-	-	-	-	-	-

OFFICIAL VALUE of SUGAR Exported by Sea from the East India Company's Dominions

(*Mem*^{a}.—These Figures include Sugar Candy and Re-Exports; consequently only as set forth in the preceding

YEAR.	PRESIDENCY.	African Coast.	North America.	South America.	Arabian and Persian Gulphs.	China.	Great Britain.	Cape of Good Hope.	Cadiz.	Ceylon.
		Rupees.	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*
1795–6.	Bengal	- -	1,28,705	- -	14,254	- -	3,05,121	- -	- -	- -
1796–7.	Bengal	- -	3,34,343	- -	7,116	- -	4,77,000	- -	- -	- -
1797–8.	Bengal	- -	5,20,937	- -	6,194	- -	1,82,650	- -	- -	- -
1798–9.	Bengal	- -	1,70,860	- -	74,330	- -	3,75,999	6,000	- -	- -
1799–0.	Bengal	- -	6,59,340	- -	41,249	- -	6,90,667	- -	- -	- -
1800–1.	Bengal	- -	5,50,649	- -	21,510	- -	1,19,406	- -	- -	- -
1801–2.	Bengal	- -	3,11,409	- -	49,321	- -	2,23,191	- -	- -	- -
1802–3.	Bengal	- -	5,04,544	- -	86,440	- -	2,31,891	- -	- -	- -
	Fort St. George, and Subordinates	- -	842	- -	- -	- -	1,42,097	- -	- -	12,706
	Bombay and Surat	603	- -	- -	3,08,877	- -	- -	- -	- -	- -
	Total	603	5,05,386	- -	3,95,317	- -	3,73,988	- -	- -	12,706
1803–4.	Bengal	- -	8,53,313	- -	54,847	- -	1,364	- -	- -	- -
	Fort St. George, and Subordinates	- -	- -	- -	- -	20	89,214	- -	- -	10,885
	Bombay and Surat	738	- -	- -	2,50,720	- -	- -	- -	- -	900
	Total	738	8,53,313	- -	3,05,567	20	90,578	- -	- -	11,785
1804–5.	Bengal	- -	6,56,261	- -	1,02,112	- -	116	- -	434	8,356
	Fort St. George, and Subordinates	627	17	- -	6	- -	833	- -	- -	8,606
	Bombay and Surat	1,091	- -	- -	2,68,328	- -	460	- -	- -	- -
	Total	1,718	6,56,278	- -	3,70,446	- -	1,409	- -	434	16,962

in the Peninsula of Hindoostan, to Places not in the Peninsula; distinguishing Particulars.

there is an apparent Discrepancy with the Value of Sugar,
Extracts from the written Reports.)

Copenhagen.	Moluccas.	Malacca.	Hambro'	Manilla.	Java.	Isle of France.	Leghorn.	Lisbon.	Maldive Islands.	Penang and Eastward	Pegue.	New South Wales.	TOTAL.
Rupees.	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*
90,642	- -	- -	1,77,931	- -	- -	- -	- -	- -	461	1,380	3,705	682	7,22,881
2,02,680	- -	- -	89,580	- -	- -	- -	8,076	- -	162	2,416	1,954	6,750	11,30,077
7,898	- -	- -	43,602	- -	- -	- -	- -	- -	364	2,225	2,069	13,582	7,79,521
30,533	- -	- -	1,84,864	- -	- -	- -	- -	- -	952	2,319	5,619	18,316	8,69,792
1,10,451	- -	- -	23,502	- -	- -	- -	- -	- -	1,191	11,237	7,900	- -	15,45,537
40,032	- -	- -	- -	- -	- -	- -	- -	- -	2,340	37,019	11,584	2,700	7,85,240
- -	- -	- -	- -	- -	- -	- -	- -	25	6,778	22,301	7,788	1,600	6,22,413
- -	- -	- -	- -	- -	140	90	- -	2,822	8,125	33,894	1,792	- -	8,69,738
- -	13	- -	11,216	98	36	10,568	- -	- -	- -	13,340	428	- -	1,91,344
- -	- -	- -	- -	- -	- -	- -	- -	36	- -	- -	- -	- -	3,09,516
- -	13	- -	11,216	98	176	10,658	- -	2,858	8,125	47,234	2,220	- -	13,70,598
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	344	3,399	96,795	10,10,062
- -	- -	41,337	- -	- -	- -	6	- -	- -	- -	333	508	44,363	1,86,666
- -	- -	- -	- -	- -	- -	- -	- -	36	- -	- -	- -	- -	2,52,394
- -	- -	41,337	- -	- -	- -	6	- -	36	- -	677	3,907	141,158	14,49,122
- -	- -	- -	2,145	- -	- -	- -	- -	96	4,476	38,801	1,929	- -	8,14,726
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	23	166	- -	10,278
- -	- -	- -	- -	- -	- -	- -	-	- -	- -	- -	- -	- -	2,69,879
- -	- -	- -	2,145	- -	- -	- -	- -	96	4,476	38,824	2,095	- -	10,94,883

Official Value of Sugar Exported—*continued.*

YEAR.	PRESIDENCY.	African Coast.	North America.	Arabian and Persian Gulphs.	Cape of Good Hope.	Ceylon.	China.	Copenhagen
		Rupees.	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*
1805–6.	Bengal	-	11,69,456	5,37,255	-	10,790	2,820	-
	Fort St. George, and Subordinates	416	230	-	-	10,833	-	-
	Bombay and Surat	1,395	-	4,10,852	-	625	-	-
	Total	1,811	11,69,686	9,48,107	-	22,248	2,820	-
1806–7.	Bengal	-	9,74,563	8,24,664	49,514	2,29,559	743	64,898
	Fort St. George, and Subordinates	-	238	19	4,533	2,184	-	-
	Bombay and Surat	-	-	- No accounts, ship lost,			—	—
	Total	-	9,74,801	8,24,683	54,047	2,31,743	743	64,898
1807–8.	Bengal	-	2,78,122	2,06,922	12,755	14,782	-	-
	Fort St. George, and Subordinates	-	-	-	16,088	7,224	-	-
	Bombay and Surat	7,199	-	2,82,527	-	6,898	-	-
	Total	7,199	2,78,122	4,89,449	28,843	28,904	-	-
1808–9.	Bengal	-	9,064	1,11,008	-	22,133	154	-
	Fort St. George, and Subordinates	28,508	7,306	1,981	-	8,548	-	-
	Bombay and Surat	6,474	-	4,52,311	-	6,710	-	-
	Total	34,982	16,370	5,65,300	-	37,391	154	-
1809–10.	Bengal	-	95,244	3,05,327	-	5,110	-	-
	Fort St. George, and Subordinates	-	66	2,273	-	3,891	-	-
	Bombay and Surat	7,585	-	5,25,329	-	2,821	-	-
	Total	7,585	95,310	8,32,929	-	11,822	-	-
1810–1.	Bengal	-	35,506	1,73,678	144	600	-	-
	Fort St. George, and Subordinates	-	49	9,000	-	3,171	156	-
	Bombay and Surat	3,210	-	1,81,965	-	3,836	-	-
	Total	3,210	35,555	3,64,643	144	7,607	156	-

Official Value of Sugar Exported—*continued.*

Great Britain.	Hambro'.	Isle of France.	Maldive Islands.	Manilla.	Moluccas.	New South Wales.	Pegue.	Penang and Eastward.	Lisbon.	TOTAL.
Rupees.	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*
54,478	54,804	- -	3,566	- -	- -	- -	75	5,018	- -	18,38,262
314	- -	- -	- -	- -	- -	- -	26	279	- -	12,098
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	4,12,872
54,792	54,804	- -	3,566	- -	- -	- -	101	5,297	- -	22,63,232
34,003	- -	3,640	20,062	- -	- -	- -	4,673	5,163	- -	22,11,482
423	- -	- -	- -	- -	- -	- -	117	148	- -	7,662
—	—	—	—	—	—	—	—	—	—	—
34,426	- -	3,640	20,062	- -	- -	- -	4,790	5,311	- -	22,19,144
- -	- -	-	18,897	- -	- -	33,976	4,807	12,519	- -	5,82,780
293	- -	- -	- -	- -	- -	- -	- -	724	- -	24,329
- -	- -	- -	- -	- -	- -	- -	- -	- -	500	2,97,124
293	- -	- -	18,897	- -	- -	33,976	4,807	13,243	500	9,04,233
- -	- -	- -	6,439	- -	- -	37,406	562	23,682	- -	2,10,448
168	- -	- -	- -	- -	- -	- -	525	2,082	- -	49,118
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	4,65,495
168	- -	- -	6,439	- -	- -	37,406	1,087	25,764	- -	7,23,061
19,025	- -	- -	2,729	- -	- -	45,611	1,054	24,562	- -	4,98,662
348	- -	- -	494	5,498	- -	- -	54	- -	- -	12,624
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	5,35,735
19,373	- -	- -	3,223	5,498	- -	45,611	1,108	24,562	- -	10,47,021
91,346	- -	11,240	10,524	- -	3,040	73,056	1,621	583	- -	4,01,338
- -	- -	- -	41	- -	- -	- -	828	13,667	- -	26,912
- -	- -	2,740	- -	- -	- -	- -	- -	- -	- -	1,91,751
91,346	- -	13,980	10,565	- -	3,040	73,056	2,449	14,250	- -	6,20,001

Official Value of Sugar Exported—*continued.*

YEAR.	PRESIDENCY.	African Coast.	North America.	Arabian and Persian Gulphs.	Brazils.	Cadiz.	Ceylon.	China.	Copenhagen.	Cape of Good Hope.	France.
		Rupees.	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*
1811–2.	Bengal	- -	30,065	105,776	- -	- -	10,718	- -	- -	- -	- -
	Fort St. George, and Subordinates	- -	4,297	1,150	- -	- -	1,812	81	- -	- -	- -
	Bombay and Surat	5,442	- -	437,967	- -	- -	326	- -	- -	- -	- -
	Total	5,442	34,362	544,893	- -	- -	12,856	81	- -	- -	- -
1812–3.	Bengal	- -	27,829	3,67,707	- -	- -	5,068	- -	- -	- -	- -
	Fort St. George, and Subordinates	- -	28,542	19,348	- -	- -	3,944	- -	- -	- -	- -
	Bombay and Surat	5,984	- -	6,62,360	- -	- -	470	- -	- -	- -	- -
	Total	5,984	56,371	10,49,415	- -	- -	9,482	- -	- -	- -	- -
1813–4.	Bengal	144	- -	4,20,684	- -	- -	29,202	- -	- -	277	- -
	Fort St. George, and Subordinates	- -	- -	- -	1,228	- -	- -	- -	- -	- -	- -
	Bombay and Surat	1,547	- -	3,38,381	- -	- -	6,440	- -	- -	- -	- -
	Total	1,691	- -	7,59,065	1,228	- -	35,642	- -	- -	277	- -
1814–5.	Bengal	3,200	- -	3,29,649	15,861	- -	17,713	- -	- -	41,275	- -
	Fort St. George, and Subordinates	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	Bombay and Surat	1,513	- -	3,89,706	- -	- -	706	- -	- -	- -	- -
	Total	4,713	- -	7,19,335	15,861	- -	18,419	- -	- -	41,275	- -
1815–6.	Bengal	- -	2,52,697	4,17,881	- -	- -	3,513	- -	3,400	32,740	- -
	Fort St. George, and Subordinates	- -	- -	- -	- -	- -	1,590	- -	- -	7,535	- -
	Bombay and Surat	4,408	- -	2,10,685	- -	- -	3,105	- -	- -	- -	- -
	Total	4,408	2,52,697	6,28,566	- -	- -	8,208	- -	3,400	40,275	- -
1816–7.	Bengal	- -	10,46,454	2,76,744	- -	12,689	10,771	- -	- -	35,182	74,433
	Fort St. George, and Subordinates	- -	- -	6,345	- -	- -	6,801	- -	- -	- -	- -
	Bombay and Surat	5,695	- -	2,05,602	- -	- -	240	- -	- -	- -	- -
	Total	5,695	10,46,454	4,88,691	- -	12,689	17,812	- -	- -	35,182	74,433

- - - - - - Official Value of Sugar Exported—*continued.*

Great Britain.	Holland.	Java.	Isle of France.	Lisbon.	Maldive Islands.	Moluccas.	New South Wales.	Pegue.	Penang and Eastward.	Russia.	TOTAL.
Rupees.	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*
10,458	- -	5,482	10,012	- -	19,452	408	1,00,563	4,870	1,890	- -	2,99,694
477	- -	26	1,258	- -	- -	- -	- -	29	320	- -	9,450
- -	- -	- -	4,040	- -	- -	- -	- -	- -	- -	- -	4,47,775
10,935	- -	5,508	15,310	- -	19,452	408	1,00,563	4,899	2,210	- -	7,56,919
9,527	- -	3,420	10,788	- -	5,054	- -	4,400	567	- -	- -	4,34,360
- -	- -	- -	5,337	- -	- -	- -	- -	- -	1,400	- -	58,571
- -	- -	- -	2,500	- -	- -	- -	- -	- -	- -	- -	6,71,314
9,527	- -	3,420	18,625	- -	5,054	- -	4,400	567	1,400	- -	11,64,245
28,664	- -	480	14,046	- -	19,443	- -	40,652	12,933	160	- -	5,66,685
- -	- -	- -	- -	- -	- -	- -	- -	8,006	- -	- -	9,234
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	3,46,368
28,664	- -	480	14,046	- -	19,443	- -	40,652	20,939	160	- -	9,22,287
8,98,252	- -	23,926	59,487	- -	3,569	- -	16,995	6,925	12,186	- -	14,29,038
7,850	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	7,850
2,33,301	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	6,25,226
11,39,403	- -	23,926	59,487	- -	3,569	- -	16,995	6,925	12,186	- -	20,62,114
8,18,433	- -	5,804	1,04,109	- -	7,219	- -	45,701	4,181	19,000	1,78,041	18,92,719
- -	- -	- -	12,600	- -	- -	- -	- -	- -	- -	- -	21,725
2,42,653	- -	- -	2,010	- -	- -	- -	- -	- -	2,125	- -	4,64,986
10,61,086	- -	5,804	1,18,719	- -	7,219	- -	45,701	4,181	21,125	1,78,041	23,79,430
10,43,713	55,771	- -	1,43,723	11,273	6,649	- -	71,770	5,379	3,446	- -	27,97,997
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	13,146
97,400	- -	- -	1,900	- -	- -	- -	- -	- -	- -	- -	3,10,837
11,41,113	55,771	- -	1,45,623	11,273	6,649	- -	71,770	5,379	3,446	- -	31,21,980

Official Value of Sugar Exported—*continued.* - - - - - -

YEAR.	PRESIDENCY.	African Coast.	North America.	South America.	Arabian and Persian Gulphs.	Brazils.	Cape of Good Hope.	Ceylon.	China.	Copenhagen.	France.
		Rupees.	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*
1817–8.	Bengal - -	3,054	12,56,160	15,698	5,39,803	49,027	3,071	9,782	- -	3,204	1,27,218
	Fort St. George, and Subordinates	- -	- -	- -	- -	- -	- -	2,804	- -	- -	- -
	Bombay and Surat	1,139	15,850	- -	5,00,248	- -	- -	1,010	- -	- -	16,250
	Total - -	4,193	12,72,010	15,698	10,40,051	49,027	3,071	13,596	- -	3,204	1,43,468
1818–9.	Bengal - -	- -	11,69,009	42,483	5,68,872	- -	38,479	4,025	- -	86,580	5,74,989
	Fort St. George, and Subordinates	- -	- -	- -	- -	- -	12,681	7,214	- -	- -	- -
	Bombay and Surat	155	82,750	- -	3,98,889	- -	- -	1,099	- -	- -	15,012
	Total - -	155	12,51,759	42,483	9,67,761	- -	51,160	12,338	- -	86,580	590,001
1819–20.	Bengal - -	- -	14,62,119	28,121	4,42,463	19,882	62,430	11,742	1,120	63,239	2,76,936
	Fort St. George, and Subordinates	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	Bombay and Surat	2,455	50,540	- -	3,45,177	- -	13,500	7,721	- -	- -	16,400
	Total - -	2,455	15,12,659	28,121	7,87,640	19,882	75,930	19,463	1,120	63,239	2,93,336
1820–1.	Bengal - -	- -	- -	- -	Accounts not received.			–	–	–	–
	Fort St. George, and Subordinates	- -	- -	- -	Accounts not received.			–	–	–	–
	Bombay and Surat	5,930	- -	- -	248,771	- -	- -	2,777	- -	- -	4,386
	Total - -	–	–	–	–	–	–	–	–	–	–

Official Value of Sugar Exported—*continued.*

Gibraltar.	Great Britain.	Holland.	Java.	Isle of France.	Lisbon.	Maldive Islands.	Manilla.	New South Wales.	Pegue.	Penang or Eastward.	Russia.	TOTAL.
Rupees.	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*
1,66,293	12,52,041	- -	- -	5,429	- -	8,060	- -	42,723	2,609	20,609	3,668 okhotsk	36,08,449
- -	7,451	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	10,255
- -	69,999	- -	- -	3,620	- -	- -	- -	- -	- -	- -	- -	6,08,116
1,66,293	13,29,491	- -	- -	9,049	- -	8,060	- -	42,723	2,609	20,609	3,668	42,26,820
1,26,514	12,40,901	65,557	- -	2,439	40,943	1,596	- -	21,960	446	1,835	- -	39,86,528
- -	66,400	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	86,295
- -	82,486	- -	- -	2,313	- -	- -	- -	- -	- -	- -	- -	5,82,704
1,26,514	13,89,787	65,557	- -	4,752	40,943	1,596	- -	21,960	446	1,835	- -	46,55,527
32,458	13,54,421	28,798	384	11,085	- -	1,258	7,798	98,526	110	2,824	- -	39,95,714
- -	12,088	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	12,088
- -	8,81,533	- -	- -	1,600	- -	- -	- -	- -	- -	105	- -	13,19,031
32,458	22,48,042	28,798	384	12,685	- -	1,258	7,798	98,526	110	2,929	- -	52,36,833
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
- -	1,32,055	- -	- -	3,450	- -	- -	- -	- -	- -	190	- -	3,97,559
-	-	- -	-	-	-	-	-	-	-	-	-	-

QUANTITY and VALUE of SUGAR Exported to London on Account of the East India Company, from their Possessions in the Peninsula of Hindoostan.

YEAR.	From BENGAL.		From MADRAS.		From BOMBAY.		TOTAL.	
	Tons.	*SRupees.*	*Tons.*	*SRupees.*	*Tons.*	*SRupees.*	*Tons.*	*SRupees.*
1791–2.	170	25,913	- -	- -	- -	nil.	170	25,913
1792–3.	1,676	3,47,056	162	49,50	- -	nil.	1,838	3,96,560
1793–4.	4,541	12,67,420	- -	nil.	-	nil.	4,541	12,67,420
1794–5.	7,245	16,36,570	754	2,42,966	- -	nil.	7,999	18,79,536
1795–6.	6,213	11,56,870	132	30,163	- -	nil.	6,345	11,87,033
1796–7.	4,539	9,07,645	540	1,64,808	- -	nil.	5,079	10,72,453
1797–8.	6,842	10,12,686	199	47,365	- -	nil.	7,041	10,60,051
1798–9.	1,752	2,91,113	248	81,725	- -	nil.	2,000	3,72,838
1799–0.	6,861	10,98,968	161	41,300	- -	nil.	7,022	11,40,268
1800–1.	2,416	3,40,996	224	47,617	- -	nil.	2,640	3,88,613
1801–2.	938	1,99,197	186	51,072	- -	nil.	1,124	2,50,269
1802–3.	2,870	5,98,565	373	1,17,239	- -	nil.	3,243	7,15,804
1803–4.	4,740	9,38,996	669	1,64,913	- -	nil.	5,409	11,03,909
1804–5.	4,143	7,75,211	66	19,266	- -	nil.	4,209	7,94,477
1805–6.	2,856	5,35,644	176	41,741	- -	nil.	3,032	5,77,385
1806–7.	4,601	9,51,622	- -	nil.	- -	nil.	4,601	9,51,622
1807–8.	1,430	3,11,721	94	21,710	- -	nil.	1,524	3,33,431
1808–9.	1,796	7,86,555	- -	nil.	- -	nil.	1,796	7,86,555
1809–10.	752	1,46,237	- -	nil.	- -	nil.	752	1,46,237
1810–1.	171	32,367	- -	nil.	- -	nil.	171	32,367
1811–2.	3,622	6,34,613	- -	nil.	- -	nil.	3,622	6,34,613
1812–3.	2,517	4,06,095	- -	nil.	- -	nil.	2,517	4,06,095
1813–4.	1,619	2,73,715	- -	nil.	48	7,800	1,667	2,81,515
1814–5.	—	—	—	nil.	—	nil.	—	—
1815–6.	628	1,36,004	- -	nil.	- -	nil.	628	1,36,004
1816–7.	66	15,308	- -	nil.	- -	nil.	66	15,308
1817–8.	991	2,42,835	- -	nil.	- -	nil.	991	2,42,835
1818–9.	1,068	2,42,699	- -	nil.	- -	nil.	1,068	2,42,699
1819–20.	964	2,34,822	½	206	- -	nil.	964 ½	2,35,028
1820–1.	1,980	4,74,474	50	16,037	- -	nil.	2,030	4,90,511
1821–2.	1,545	3,92,109	- -	Nil.	- -	nil.	1,545	3,92,109
	81,552	1,64,14,026	4,034 ½	11,37,632	48	7,800	85,634 ½	1,75,59,458

ABSTRACT OFFICIAL VALUE of SUGAR, Imported into and Exported from the East India Company's Possessions in the Peninsula of Hindoostan, from and to Places not in the Peninsula.

	IMPORTS.			EXPORTS.				
YEAR.	On Account of the East India Company.	On Account of Private Individuals.	TOTAL.	On Account of the East India Company.	On Account of Private Individuals.	TOTAL.	EXCESS of IMPORTS.	EXCESS of EXPORTS.
	Rupees.	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*	*Rupees.*
1791–2.	- -	- -	- -	25,913	- -	25,913	- -	25,913
1792–3.	- -	- -	- -	3,96,560	- -	3,96,560	- -	3,96,560
1793–4.	- -	- -	- -	12,67,420	- -	12,67,420	- -	12,67,420
1794–5.	- -	- -	- -	18,79,536	- -	18,79,536	- -	18,79,536
1795–6.	- -	31,843	31,843	11,87,033	7,22,881	19,09,914	- -	18,78,071
1796–7.	- -	48,168	48,168	10,72,453	11,30,077	22,02,530	- -	21,54,362
1797–8.	- -	27,778	27,778	10,60,051	7,79,521	18,39,572	- -	18,11,794
1798–9.	- -	31,948	31,948	3,72,838	8,69,792	12,42,630	- -	12,10,682
1799–0.	- -	29,965	29,965	11,40,268	15,45,537	26,85,805	- -	26,55,840
1800–1.	- -	61,444	61,444	3,88,613	7,85,240	11,73,853	- -	11,12,409
1801–2.	- -	35,751	35,751	2,50,269	6,22,413	8,72,682	- -	8,36,931
1802–3.	- -	22,50,882	22,50,882	7,15,804	13,70,598	20,86,402	1,64,480	—
1803–4.	- -	10,50,490	10,50,490	11,03,909	14,49,122	25,53,031	- -	15,02,541
1804–5.	- -	20,01,226	20,01,226	7,94,477	10,94,883	18,99,360	1,01,866	—
1805–6.	- -	10,13,857	10,13,857	5,77,385	22,63,232	28,40,617	- -	18,26,760
1806–7.	- -	1,35,381	1,35,381	9,51,622	22,19,144	31,70,766	- -	30,35,385
1807–8.	- -	20,58,994	20,58,994	3,33,431	9,04,233	12,37,664	8,21,330	—
1808–9.	- -	16,78,794	16,78,794	7,86,555	7,23,061	15,09,616	1,69,178	—
1809–10.	- -	12,60,623	12,60,623	1,46,237	10,47,021	11,93,258	67,365	—
1810–1.	- -	11,44,439	11,44,439	32,367	6,20,001	6,52,368	4,92,071	—
1811–2.	- -	11,73,630	11,73,630	6,34,613	7,56,919	13,91,532	- -	2,17,902
1812–3.	- -	8,13,559	8,13,559	4,06,095	11,64,245	15,70,340	- -	7,56,781
1813–4.	- -	7,81,190	7,81,190	2,81,515	9,22,287	12,03,802	- -	4,22,612
1814–5.	- -	13,62,859	13,62,850	- -	20,62,114	20,62,114	- -	6,99,264
1815–6.	- -	15,95,854	15,95,854	1,36,004	23,79,430	25,15,434	- -	9,19,580
1816–7.	- -	12,75,573	12,75,573	15,308	31,21,980	31,37,288	- -	18,61,715
1817–8.	- -	16,32,380	16,32,380	2,42,835	42,26,820	44,69,655	- -	28,37,275
1818–9.	- -	25,80,658	25,80,658	2,42,699	46,55,527	48,98,226	- -	23,17,568
1819–20.	- -	22,93,987	22,93,987	2,35,028	52,36,833	54,71,861	- -	31,77,874
	- -	2,63,71,264	2,63,71,264	1,66,76,838	4,26,72,911	5,93,49,749	18,16,290	3,47,94,775
							Deduct Excess Imports - - -	18,16,290
							Excess of Exports - - - -	3,29,78,485

ESTIMATE of Profit and Loss on the East India Company's RAW SUGAR sold in the undermentioned Years.

YEARS.	Quantity.	Prime Cost.	Customs.	Convoy Duty.	Freight, &c.	Charges.	Total.	Sale Amount.	Profit.	Loss.
	Cwt.	£.	£.	£.	£.	£.	£.	£.	£.	£.
1791	4,017	4,663	8,401	- - -	7,019	1,112	21,195	22,221	1,026	—
1792	3,310	3 187	6,491	- - -	5,196	874	15,748	17,496	1,748	—
1793	36,891	48,279	- - -	- - -	51,153	5,470	104,902	109,403	4,501	—
1794	57,583	97,110	- - -	- - -	74,874	7,701	179,685	154,035	- - -	25,650
1795	155,906	234,881	- - -	- - -	264,950	21,763	521,594	435,259	- - -	86,335
1796	84,606	106,110	- - -	- - -	113,009	12,488	231,607	249,775	18,168	—
1797	70,891	85,216	- - -	- - -	66,733	10,171	162,120	203,439	41,319	—
1798	139,100	152,733	- - -	8,044	191,741	22,877	375,395	457,545	82,150	—
1799	46,682	40,910	389	3,872	57,630	6,193	108,994	123,869	14,875	—
1800	111,070	120,456	4,931	7,396	208,380	12,329	353,492	246,569	- - -	106,923
1801	55,797	60,824	2,942	4,416	98,020	7,359	173,561	147,191	- - -	26,370
1802	55,786	54,708	5,107	- - -	93,990	5,107	158,912	102,151	- - -	56,761
1803	27,510	40,274	1,043	- - -	52,129	2,844	96,290	56,879	- - -	39,411
1804	78,620	98,014	2,646	- - -	98,703	10,403	209,766	208,059	- - -	1,707
1805	102,735	137,416	3,962	- - -	169,874	14,735	325,985	294,704	- - -	31,281
1806	65,806	82,841	2,068	- - -	120,852	7,226	212,987	144,506	- - -	68,481
1807	105,503	134,849	2,731	- - -	194,296	10,125	342,001	202,487	- - -	139,514
1808	48,447	65,785	1,185	- - -	85,400	4,395	156,765	87,892	- - -	68,873
1809	31,618	49,761	803	- - -	65,038	3,437	119,039	68,749	- - -	50,290
1810	40,534	47,355	950	- - -	53,584	4,750	106,639	94,988	- - -	11,651
1811	1,824	2,037	35	- - -	1,590	176	3,838	3,513	- - -	325
1812	67,610	77,968	1,557	- - -	117,382	7,786	204,693	155,721	- - -	48,972
1813	47,559	48,738	1,486	- - -	75,651	7,431	133,306	148,620	15,314	—
1814	42,548	46,095	- - -	- - -	53,253	8,475	107,823	169,505	61,682	—
1815	3,312	4,303	- - -	- - -	3,023	425	7,751	8,510	759	—
1816	18,951	27,908	- - -	- - -	25,514	2,051	55,473	41,009	- - -	14,464
1817	2,774	4,043	- - -	- - -	2,611	329	6,983	6,578	- - -	405
1818	19,086	30,653	- - -	- - -	23,219	2,203	56,075	44,060	- - -	12,015
1819	20,754	30,652	- - -	- - -	26,565	2,013	59,230	40,267	- - -	18,963
1820	18,318	28,613	- - -	- - -	11,519	1,668	41,800	33,366	- - -	8,434
1821	39,731	56,891	- - -	- - -	18,335	2,869	78,095	57,375	- - -	20,720
	1,604,379	2,023,273	46,727	23,728	2,431,231	206,785	4,731,744	4,135,741	241,542	837,545
									Deduct Profit -	241,542
									Net Loss - -	596,003

RATES of Duties levied on the following Goods (not being the Produce or Manufacture of the United Kingdom or of Foreign Europe) on their Importation into Calcutta by Sea, on British or Foreign Bottoms, and the Drawbacks allowed on Re-exportation to the United Kingdom, on Vessels trading under the Provisions of the Acts for regulating the direct and circuitous Trade between the United Kingdom and India.

Extract Bengal Regulation, XXI, of the Year 1817.

—	If imported on a British Bottom.		If imported on a Foreign Bottom.	
	Import Duty.	Drawback on Re-exportation to the United Kingdom.	Import Duty.	Drawback on Re-exportation to the United Kingdom.
	Per Cent on Value.	Proportion of Duty.	Per Cent on Value.	Proportion of Duty.
Sugar, wet or dry, including jaggree and molasses -	5	2-3ds.	10	3-4ths.

INTERNAL or Transit Duties, payable on the following Articles, and of the Drawbacks allowed on Exportation by Sea to the United Kingdom, on Vessels trading under the Provisions of the Acts for regulating the direct and circuitous Trade between the United Kingdom and India.

Extract Bengal Regulation, XXI, of the Year 1817.

—	Transit Duty.	Drawback on Exportation to the United Kingdom.
	Per Cent on Value.	Proportion of Duty.
Sugar, jaggry, goor and syrup - -	five	one-half or $2\frac{1}{2}$ per cent.

EXTRACTS from Papers respecting the Trade between India and Europe.—
Printed for the information of Proprietors, 4th April 1802.

First Report of the Special Committee, 27th July 1801.

SUGAR is an article which the Company have been at pains to encourage, but the prices here are known to have been variable and precarious; and from the experience hitherto acquired, in a time of war, indeed, when high freights have prevailed, it does not appear to be a commodity which, unless changes are supposed in other parts of the world, and on the duties on home consumption here, promises to produce, on any large scale of importation, a sure or adequate profit. On the finer sorts which the Company have imported, they have gained a little, on the coarser there has been a loss; and from the present state of the trade in this article in the great European market and in India, Your Committee do not see the inducements which the Indian merchants can have to embark largely in it, unless the procuring the freight for their ships be a leading consideration, which is a very distinct object, that has yet no title to the attention of the Court, as will be shown hereafter. Page 49.

Third Report of the Special Committee, 25th March 1802;—Appendix.

It is found by experience that private traders cannot fill their ships without a large quantity of sugar for dead weight; whilst it is also ascertained from experience, that, if sugar is charged with the whole of the freight for the voyage, it frequently leaves a loss, which loss will probably be increased when the rate of freight and charges from the West Indies are reduced to their former level in consequence of peace. It may therefore become a question for consideration hereafter, how far the importation of sugar from the East, which leaves a loss to the importer, and the first cost of which is paid for by the public in silver from hence, shall be encouraged to the prejudice of the West India sugar, the cost of which is either spent by the proprietor in the mother country, or paid for by the manufactures and stores exported from home; for silver is often received from the Islands, but seldom sent thither.

The balance of trade is, as it always must be in future, in favour of India; it is therefore highly important to probe the question to the bottom. The value of every rupee invested in sugar, and imported from the East, is an additional rupee to the balance of trade against the mother country. Some able and well-intentioned persons have made it a question, whether sugar may not be supplied from India to an almost indefinite amount; but they are not aware that the success, or in other words, the benefit of India, in this instance, would prove the destruction of the mother country, which cannot exist under the immense drain of bullion that must follow. If the East was in the same predicament with the West Indies, when the cost of the sugar was either spent in Great Britain and Ireland, or paid for in manufactures and stores, it would be consistent, with the soundest principles of political arithmetic, to encourage the importation by every possible means. These observations are afforded, because private traders can load very few ships without sugar, that any material increase of importation of the produce of India by them, must be in sugar. It is, therefore, necessary to ascertain, whether the general interests of the Imperial Empire, and the interest of a very numerous description of persons, West India Planters, and Merchants, Ship Owners, British Manufacturers, &c. &c. &c. will not suffer to a greater degree than the East India Company, without producing any additional benefit commensurate to the evil, either to the empire of India or to the mother country, if the request of the Indian agents shall be complied with?

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